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Guiding Dreams, Empowering Future
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EXCLUSIVE CURRENT AFFAIRS BULLETIN

Newsletter | 5th Week, August 2026



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Why in News?

Sugar prices in India have risen sharply in August 2026, with retail prices in major cities increasing by around 40% within a fortnight. This is significant because India had entered the 2025-26 season expecting a comfortable surplus and had initially permitted sugar exports.

Status of Sugar Production in India

- Global Position: World's second-largest producer (after Brazil) and largest consumer of sugar
- Normal Production: 320–340 LMT annually against domestic consumption of 280–290 LMT
- 2025-26 Estimates: Initial estimate was



- 343 LMT, but revised down to 306 LMT
- Stock Position: Government maintains adequate stocks are available to meet domestic demand until new crushing season in October

Factors Behind the Sugar Price Surge Crop Damage in Key States

- Excess rainfall and waterlogging in Maharashtra
- Red Rot and Top Borer diseases reduced sugarcane yield and sugar recovery

Festive-Season Demand

- Increased consumption ahead of Onam, Raksha Bandhan and broader festive season for sweets, confectionery and processed foods

SUGAR PRICE SURGE IN INDIA



Lower Carry-over Stocks

- Production lower than expected; around 8 LMT already exported
- Tighter availability raising concerns about stocks before October crushing

Hoarding and Speculative Buying

- Expectations of shortage encouraged mills, traders and bulk consumers to hold larger inventories

Tight Global Market

- Global sugar supplies tightening with 33 LMT deficit projected for 2026-27
- International prices rose over 16%, from USD 474/tonne in June to USD 552/tonne in August 2026

Ethanol Diversion Not the Main Trigger

- Diversion in 2025-26 was around 3 MT, lower than earlier expectations
- Present surge primarily linked to lower production, festive demand, weather damage and market behaviour

Government Initiatives to Curb Hoarding & Augment Supply

Tariff-Rate Quota (TRQ) for Raw Sugar Imports

- Duty-free import of up to 1 million tonnes (10 LMT) of raw sugar until October 31st
- Sugar imports normally attract 100% basic customs duty

Strict Stockholding Limits

(Essential Commodities Act, 1955)

- Stock limit of 400 tonnes imposed on sugar dealers across country from 1st August to 30th November 2026
- From 1st September 2026, bulk consumers not permitted to hold stocks exceeding 15 days of their consumption

Advancement of Crushing Season

- State governments and mill associations encouraged to commence early crushing operations ahead of Diwali

Physical Verification

- Joint teams of Central and State Governments conducting physical verification of sugar stocks at mills to check hoarding

Structural Issues in India's Sugar Sector

Dual Pricing Disparity (FRP vs SAP)

- Centre fixes Fair and Remunerative Price (FRP); States often announce higher State Advised Prices (SAP)
- Sugarcane accounts for 65–75% of mill costs; higher cane prices squeeze mill margins
- Encourages sugarcane cultivation even in regions better suited for less water-intensive crops

Spatial Misallocation and High Water Footprint

- Sugarcane expanded significantly in semi-arid regions (Maharashtra, Karnataka)
- High water requirement contributes to groundwater depletion and water stress

Soil Degradation from Monoculture

- Continuous sugarcane cultivation degrades soil quality, reduces fertility
- Causes soil salinisation, alkalinity, waterlogging

Scale Inefficiency and Obsolete Technology

- Several mills operate at small capacities with outdated machinery
- Results in higher processing costs, lower sugar recovery, inefficient energy use

WTO Subsidy Disputes

- Export-support measures faced scrutiny

under WTO rules

- Subsidies encouraging excessive production increase pressure on land and water resources

Biofuel–Food Security Trade-off

- Ethanol diversion provides additional revenue but can reduce domestic sugar availability
- Greater dependence on cane-based ethanol intensifies pressure on water

SUGARCANE CULTIVATION IN INDIA

Parameter	Details
Production	490–500 million tonnes annually
Area	About 5.5 million hectares
Climate	Tropical/subtropical; 20–30°C; 75–150 cm rainfall
Cropping Seasons	Autumn (Oct–Nov), Spring (Feb–Mar), Adsaali (Jul–Aug), Eksali (Jan–Feb)
Major States	Uttar Pradesh (leading), Maharashtra, Karnataka, Tamil Nadu.



resources

Sugarcane Cultivation in India

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Reform Measures for Sugar Sector

Implement Rangarajan Committee Recommendations (2012)

- Adopt revenue-sharing formula linking sugarcane prices to market realisation

- Gradually reform cane reservation and distance norms

Implement NITI Aayog Task Force Recommendations (2020)

- Promote crop diversification in water-stressed areas
- Introduce dynamic Sugar MSP linked to FRP
- Transform sugar mills into integrated bio-refineries

Promote Micro-Irrigation

- Encourage drip and subsurface irrigation in water-stressed sugarcane regions

Promote Agro-Climatic Planning

- Encourage sugarcane in suitable, water-abundant regions
- Shift water-intensive cultivation away

from stressed areas

Develop Multi-Feedstock Bio-Refineries

- Enable distilleries to switch between molasses, surplus maize and 2G biomass

Ensure Predictable

Trade Policy

- Replace sudden export bans with formula-based tariff mechanism linked to production, consumption and stocks

Strengthen Sustainable Agriculture

- Promote drought-resistant varieties, crop rotation, soil-health management

Ensure Policy Stability

- Maintain predictable policies for pricing, ethanol diversion, exports, imports and stock limits

Conclusion

India's sugar sector has shifted from an expected surplus to tighter supplies and sharp price rise, driven by lower production, crop damage, festive demand and global supply pressures. The crisis highlights deeper structural concerns such as water-intensive cultivation, FRP-SAP disparity, ethanol-food security trade-offs and policy volatility. Moving forward, the sector requires reforms focused on crop diversification, micro-irrigation, bio-refineries and predictable trade policy. Balancing farmer incomes, consumer affordability, food security and ethanol objectives through sustainable cultivation and efficient water use will be key to building a resilient sugar economy.

Previous Year Question (Prelims)

Q. Consider the following statements regarding the sugar industry in India:

- India is the largest producer of sugar in the world.
- The Fair and Remunerative Price (FRP) of sugarcane is fixed by the Central Government.
- Sugarcane is a tropical crop requiring rainfall between 75–150 cm.

Which of the statements given above is/are correct?

- 1 only
- 2 and 3 only
- 1 and 3 only
- 1, 2 and 3

Answer: (b) 2 and 3 only.

Mission Samriddh Gaon

Why in News?

The Union Minister for Rural Development launched Mission Samriddh Gaon at Krishi Bhawan, New Delhi.

The Mission has begun with an initial pilot phase in two blocks of Madhya Pradesh:

Budni Block – Sehore district

Khategaon Block – Dewas district

The initiative seeks to demonstrate an integrated model of rural transformation that can improve livelihoods, basic amenities and social protection at the village and household levels.

What is Mission Samriddh Gaon?

- Mission Samriddh Gaon is an integrated rural transformation and livelihood-saturation framework.
- It coordinates Central and State Government welfare programmes under a common implementation framework.
- Instead of implementing different schemes separately, it seeks their convergence at household, Gram Panchayat and block levels.
- It focuses on providing comprehensive rural infrastructure, assured basic amenities, sustainable and diversified livelihood opportunities, targeted social protection, and local employment and entrepreneurship opportunities.
- The ultimate objective is to make villages self-reliant, poverty-free and economically vibrant.

Nodal Ministry

- Ministry of Rural Development (MoRD), Government of India
- Pilot Locations
- Budni Block – Sehore district, Madhya Pradesh
- Khategaon Block – Dewas district, Madhya Pradesh
- Aim of the Mission
- To develop self-reliant, poverty-free and economically vibrant villages.
- Ensure that every rural family has access to sustainable livelihood opportunities.
- Provide rural households with basic amenities and social protection.

- Strengthen the economic capacity of Gram Panchayats and rural communities.
- Generate sufficient livelihood opportunities within villages to reduce distress-driven rural-to-urban migration.

Important Features of Mission Samriddh Gaon

- Family-Level Saturation and Bottom-Up Planning
- The Mission identifies and maps the eligibility of individual rural households for various government schemes.
- It prepares plans at three interconnected levels: Family level, Gram Panchayat level and Block level.
- This approach seeks to ensure universal or saturation-level access to eligible welfare and livelihood schemes.
- Bottom-up planning allows development interventions to reflect the actual requirements of families and villages rather than relying only on top-down targets.

Inter-Departmental Convergence

- The Mission brings together schemes and programmes belonging to agriculture, health, education, skill development, rural development and infrastructure.
- These programmes are coordinated through a unified delivery framework.
- Such convergence can reduce fragmentation and improve the effectiveness of government expenditure and service delivery.

Integrated Farming Sys-

tems (IFS)

- The Mission encourages farmers, particularly small farmers, to move beyond dependence on monoculture.
- It promotes diversification through horticulture, fisheries, livestock, poultry and beekeeping.
- Integrated Farming Systems can create multiple sources of income for rural households.
- Diversification can also reduce farmers' vulnerability to crop failure and fluctuations in agricultural income.

Women Farmers Empowerment

- The Mission builds upon the Lakhpati Didi model.
- Women farmers are supported through targeted agricultural and livelihood advisory services, access to microcredit and enterprise-development opportunities.
- It seeks to transform women from beneficiaries into active economic participants and rural entrepreneurs.
- Women's participation can strengthen household income and contribute to wider rural economic development.

Rural Infrastructure and Value Addition

- The Mission promotes creation and strengthening of rural economic infrastructure such as warehouses, cold chains and village-level processing units.
- These facilities can reduce post-harvest losses.

- Local processing enables villages to retain a greater share of the value generated from agricultural produce.
- It can also encourage local entrepreneurship and generate non-farm and allied-sector employment.

Significance of Mission Samridh Gaon

- Self-sustaining villages:** Seeks to transform villages from primarily production centres into self-sustaining hubs of entrepreneurship, employment and value addition.
- Livelihood security:** Diversified income sources can provide rural households with more stable and sustainable livelihoods.
- Employment generation:** Local farming, processing, storage and enterprise opportunities can create jobs within rural areas.
- Reduction in migration:** Better employment, incomes and basic amenities can reduce distress-driven rural-to-urban migration.
- Better welfare delivery:** Family-level mapping can help eligible households receive the benefits of government programmes without being excluded.
- Government convergence:** Coordination among different departments can improve the efficiency and impact of existing

Central and State schemes.

- Women-led development:** Building on the Lakhpati Didi approach can expand women's participation in agriculture, credit and rural enterprises.
- Agricultural diversification:** Integrated Farming Systems reduce excessive dependence on a single crop and provide multiple income streams.
- Local value addition:** Warehousing, cold chains and processing can reduce post-harvest losses and retain a larger share of agricultural value within villages.
- Viksit Bharat 2047:** Economically vibrant and self-reliant villages can strengthen grassroots growth and inclusive development, contributing to the broader vision of Viksit Bharat 2047.

Conclusion

Mission Samridh Gaon represents a shift from fragmented rural welfare delivery towards an integrated, household-centred development model. By combining scheme saturation, bottom-up planning,

diversified farming, women-led enterprises, infrastructure and local value addition, it aims to create self-reliant and economically vibrant villages. Its success in the Madhya Pradesh pilot can provide important lessons for building sustainable rural livelihoods, reducing poverty and distress migration, and advancing the goal of Viksit Bharat 2047.

Prelims Practice Question

Q. Consider the following statements regarding Mission Samridh Gaon:

- It is implemented under the Ministry of Rural Development.
- Its initial pilot phase covers Budni and Khategaon blocks of Madhya Pradesh.
- It promotes Integrated Farming Systems involving activities such as horticulture, fisheries, livestock, poultry and beekeeping.
- It focuses exclusively on agricultural production and does not include rural infrastructure or social protection.

Which of the statements given above are correct?

- 1 and 2 only
- 1, 2 and 3 only
- 2, 3 and 4 only
- 1, 2, 3 and 4

Answer: (b) 1, 2 and 3 only.

Why in News?

- Over the past five years, India's agricultural solar programme has subsidized installation of over 2.5 million solar pumps
- Government preparing for PM-KUSUM 2.0
- Central debate emerged: how to advance clean energy transition in agriculture without worsening groundwater over-exploitation, as solar power provides near-free energy to pump water

About PM-KUSUM

- Full Name:** Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan
- Launch Year:** 2019
- Scaled Up:** 2024
- Ministry:** Ministry of New and Renewable Energy (MNRE)
- Objectives:**
 - Ensure energy and water security for farmers
 - Enhance rural incomes
 - De-dieselise agriculture



- Reduce pollution
- Support India's Paris Agreement commitments on non-fossil fuel energy

Targets and Timeline

- Initial Target:** 34,800 MW solar capacity by March 2026
- Deadline Extended:** 31st March 2027
- Supported by:** Central Financial Assistance (CFA)

Three Core Components

Component A: Decentralized Solar Plants

- Target:** 10,000 MW decentralized grid-connected solar power plants
- Plant Size:** 500 kW to 2 MW
- Implementation:** Farmers can install on barren or cultivable lands
- Income Generation:** Sell power to local

DISCOMs at feed-in-tariff (FiT) determined by State Electricity Regulatory Commission (SERC)

Component B: Standalone Pumps

- Target: 14 lakh standalone off-grid solar agricultural pumps
- Purpose: Replace expensive and polluting diesel pumps in areas lacking grid connectivity
- Savings Example: 5 HP pump farmer saves roughly Rs 60,000 per year on diesel
- Return on Investment: Achieved in less than a year

Component C: Grid-Connected Solarisation

- Target: 35 lakh existing grid-connected agricultural pumps
- Implementation Methods:
 - Individual Pump Solarisation (IPS)
 - Feeder Level Solarisation (FLS)
- Subsidy Structure and Financing
- General States Funding
- Central Government: 30% subsidy (CFA)
- State Government: At least 30% contribution
- Farmer Responsibility: Remaining 40%
- Bank Loan: Up to 30% of farmer's share can be financed

Special Category States

- Coverage: North-Eastern states, Hilly regions (Himachal Pradesh, Uttarakhand), Island Union Territories
- Central CFA: Elevated to 50%
- Farmer Contribution: Reduced to just 20%

Priority Sector Lending

- Reserve Bank of India (RBI) has included the scheme under Priority Sector Lending (PSL) guidelines
- Ensures easy credit access for farmers

Progress Achievements (as of August 2026)

- Off-grid Solar Pumps: Nearly 11.49 lakh installed
- Feeder-Level Solarisation: Over 15.89 lakh pumps covered
- Decentralised Solar Capacity: Around 1,726 MW commissioned
- Farmers Benefited: Over 21.77 lakh
- Recent Acceleration: Nearly 13.93 lakh of 25 lakh pumps installed/solarised completed in FY 2025-26



- World Record: Maharashtra set Guinness World Record for installing 49,500 solar pumps in a single month

Significance & Benefits Fiscal Relief for States and DISCOMs

- Agricultural electricity subsidies cost states over Rs 1 lakh crore annually
- PM-KUSUM reduces this massive outflow
- Curtails transmission losses
- Aids financial revival of stressed DISCOMs
- In Gujarat, subsidies covered nearly 25% of government investments within just two years

Macro-Economic Gains

- Reduces diesel consumption by estimated 1.38 billion liters annually
- Leads to substantial drop in India's petroleum import bill

Boost to 'Make in India'

- Mandates use of domestically manufactured solar cells and modules (under Components B and C)
- Creates guaranteed demand of over 20 GW for domestic renewable energy industry

Emission Reductions

- Groundwater irrigation in India generates estimated 45 to 62 million tonnes of carbon dioxide annually
- Scaling solar pumps across India's 25 million agricultural pumps offers substantial mitigation potential
- In Gujarat, single grid-connected farmer offsets about 12.3 tonnes of CO₂ per year

Major Concerns

- The "Zero Marginal Cost" Paradox
- Solar panels provide clean energy but

eliminate economic friction of operational costs

- For off-grid standalone pumps, unutilized electricity is simply wasted
- Creates "use it or lose it" behavioral response
- Since pumping extra liter of water costs nothing, farmers are incentivized to over-irrigate
- Threatens already stressed aquifers in North-Western and Southern India

Failure of the Feed-in-Tariff Architecture

- Under Component C, primary mechanism to encourage water conservation is selling surplus electricity to grid
- Financially distressed DISCOMs reluctant to offer attractive feed-in tariffs
- Nullifies financial incentive to conserve
- Leaves off-grid pumping as default, driving further water wastage

Hydrological and Energy Policy Silos

- Critical disconnect between renewable energy targets and groundwater realities
- Subsidies distributed uniformly without mapping against Central Ground Water Board (CGWB) aquifer assessments
- Deploying high-capacity solar pumps in "over-exploited" or "critical" groundwater blocks accelerates ecological degradation

Inelastic Cropping Patterns

- Scheme superimposes clean energy on already distorted agricultural foundation
- Minimum Support Price (MSP) and state procurement policies favor water-guzzling crops (paddy and sugarcane)
- Providing free energy source exacerbates unsustainable agricultural

practices even in semi-arid regions **Capital Bottlenecks for Marginal Farmers**

- Despite substantial financial assistance, mandatory 40% upfront capital contribution remains prohibitive
- Small and marginal landholders face difficulty in adoption
- Skews scheme's adoption disproportionately benefiting wealthier farmers
- Widens rural inequality

Grid Infrastructure Deficits

- Component A mandates decentralized solar plants within 5-km radius of sub-stations to minimize transmission losses
- Remote rural areas frequently lack this baseline grid infrastructure
- Severely restricts geographical equity and overall deployment of scheme

Conclusion

PM-KUSUM represents a transformative initiative that can accelerate India's clean-energy transition while enhancing farmer prosperity, but its success depends critically on aligning with ground-water sustainability imperatives. The scheme's near-zero operational costs create perverse incentives for excessive water extraction, threatening already stressed aquifers across the country.

Previous Year Question : Prelims

Q. Consider the following statements about 'PM Surya Ghar Muft Bijli Yojana': (2025)

1. It targets installation of one crore solar rooftop panels in the

residential sector.

2. The Ministry of New and Renewable Energy aims to impart training on installation, operation, maintenance and repairs of solar rooftop systems at grassroot levels.
3. It aims to create more than three lakhs skilled manpower through fresh skilling, and upskilling, under scheme component of capacity building.

Which of the statements given above are correct?

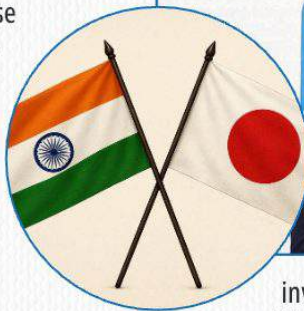
- (a) I and II only
- (b) I and III only
- (c) II and III only
- (d) I, II and III

Answer: (d) I, II and III

INDIA-JAPAN MARITIME SECURITY PACT

WHY IN NEWS?

- On August 20, 2026, India and Japan signed a landmark Memorandum of Arrangement (MoA) on Maritime Security Cooperation in New Delhi.
- The agreement was signed during bilateral talks between Defence Minister Rajnath Singh and his Japanese counterpart Shinjiro Koizumi.
- This MoA is a major step forward in the "Japan-India Special Strategic and Global Partnership" and is considered highly relevant for UPSC under GS-II (International Relations) and GS-III (Security).



BACKGROUND OF INDIA-JAPAN DEFENCE PARTNERSHIP

- 2008: India and Japan signed a Joint Declaration on Security Cooperation, which served as the foundational document for bilateral security ties.
- 2014: Elevation of bilateral relationship to "Special Strategic and Global Partnership".
- 2017: Establishment of the India-Japan Act East Forum and revival of the Quadrilateral Security Dialogue (Quad)

involving India, Japan, USA, and Australia.

- 2025: Prime Minister Modi's visit to Japan resulted in 13 major agreements and a commitment of 10 trillion Yen (68 billion USD) in Japanese private investment over the next decade.
- July 2026: Japan-India Joint Statement by leaders reaffirmed commitment to deepen defence cooperation for a Free and Open Indo-Pacific.

Core Areas of Cooperation:

Protection of Sea Lines of Communication (SLOCs):

- Both sides agreed to strengthen coor-

dination for protecting critical maritime trade routes.

- This includes mutual visits by naval ships and units, joint exercises, personnel exchanges, Subject Matter Expert (SME) exchanges, and logistical support including access to ports and maintenance/repair facilities.

Mine Countermeasures:

- Both sides agreed to maximise synergies to enhance mine countermeasures capabilities by combining Japan's technological expertise with India's production capabilities.

Joint Naval Shipbuilding:

- Exploration of joint development in naval

shipbuilding and design.

- Japan brings advanced shipbuilding and maritime technologies, while India offers domestic defence manufacturing capabilities under "Make in India".

Ship Repair Arrangement:

- Both sides agreed to work towards reciprocal provision of ship repair facilities and conclude an arrangement in the near future.

DEFENCE TECHNOLOGY & INDUSTRIAL COOPERATION

UNICORN Project:

- Unified Complex Radio Antenna – a shipborne integrated communications antenna system.
- This is the first defence equipment transfer project between India and Japan and is seen as a symbol of their growing defence technology partnership.

DRDO-ATLA Cooperation:

- Deepening cooperation between India's Defence Research and Development Organisation (DRDO) and Japan's Acquisition, Technology & Logistics Agency (ATLA) in advanced defence technologies.

Defence Industry Forum:

- Both sides agreed to convene a Defence Industry Forum to promote greater interaction between the defence industries of the two countries.

MILITARY EXERCISES

Exercise Type Details

Dharma Guardian Army Bilateral army exercise between India and Japan
JAIMEX Maritime Bilateral naval exercise between Indian Navy and JMSDF
Veer Guardian 26 Air Force First time Japanese Air Self-Defence Force fighter aircraft will visit India and participate in the exercise

Enhancements in Exercises:

- Making exercises more complex by incorporating unmanned systems.
- Exploring opportunities for conducting joint exercises at short notice.
- Promoting exchanges between Special Operations Forces.
- Exploring cooperation with India's integrated theatre commands after their

establishment.

STRATEGIC SIGNIFICANCE

Securing Sea Lines of Communication (SLOCs):

- Both countries depend heavily on maritime trade – Japan for its economy and energy supplies, India for its strategic location astride major Indian Ocean sea routes.

Countering Unilateral Actions:

- Both sides expressed strong opposition to any unilateral actions that impede freedom and safety of navigation and overflight, as well as any attempts to change the status-quo by force or coercion.

Indo-Pacific Stability:

- The partnership serves as a critical counterweight in the Indo-Pacific, aligning India's strategic autonomy with Japan's evolving defence posture.

Technological Indigenization:

- By leveraging Japan's advanced manufacturing expertise, India can accelerate its Atmanirbhar Bharat objectives in defence, moving beyond reliance on traditional suppliers.

Expanding Trilateral Cooperation:

- India, Japan, and Indonesia conducted their first trilateral naval PASSEX exercise in February 2026.

Indo-Pacific Logistics Network (IPLN):

- India and Japan will work to support partner countries during natural disasters by transporting personnel and supplies.
- Second IPLN tabletop exercise scheduled in September 2026 at Japan's Ministry of Defence.

CHALLENGES

Bureaucratic Inertia Execution of joint technology projects often suffers from bureaucratic delays and mismatch in procurement cycles between DRDO and ATLA
Divergent Threat Perceptions Japan's primary focus is East China Sea and Taiwan Strait, while India's primary security imperatives revolve around LAC and Indian Ocean Region

Technological Reluctance Japanese private defence contractors remain risk-averse regarding intellectual property transfers

and profitability of co-producing in India

WAY FORWARD

- Operationalize the 2+2 Dialogue: Accelerate discussions for the upcoming fourth India-Japan "2+2" Foreign and Defence Ministerial Dialogue in Tokyo.
- Private Sector Integration: Operationalize the proposed Defence Industry Forum to build direct B2B linkages between Indian defence start-ups and Japanese conglomerates.
- Early Implementation of UNICORN: Work towards early realization of the shipborne integrated communications antenna system.

CONCLUSION

The India-Japan Maritime Security Pact signed on August 20, 2026, represents a significant milestone in the bilateral defence relationship, transforming it from periodic dialogue to structured, operational cooperation. The Memorandum of Arrangement covers critical areas including Maritime Domain Awareness, Search and Rescue, Humanitarian Assistance and Disaster Relief, protection of Sea Lines of Communication, mine countermeasures, and joint naval shipbuilding.

PRELIMS PRACTICE QUESTION

Q. Consider the following statements regarding the India-Japan Maritime Security Pact signed in August 2026:

- The Memorandum of Arrangement (MoA) on Maritime Security Cooperation was signed between the Defence Ministers of India and Japan in New Delhi.
- The agreement includes cooperation in Maritime Domain Awareness (MDA), Search and Rescue (SAR), and Humanitarian Assistance and Disaster Relief (HADR).
- The UNICORN project is the first defence equipment transfer project between India and Japan.
- Japan and India conducted their first trilateral naval exercise with Indonesia in February 2026.

Which of the statements given above are correct?

- 1, 2 and 3 only
- 1, 2 and 4 only
- 2, 3 and 4 only
- 1, 2, 3 and 4

Answer: (d) 1, 2, 3 and 4



Census 2027: Ladakh to Lead Independent INDIA'S FIRST CASTE ENUMERATION

Why in News?

Ladakh will be the first region to operationalise the caste enumeration methodology during the second phase of Census 2027 — Population Enumeration (PE). This marks the first time since Independence that a comprehensive caste count will be conducted as part of the regular Census.

Caste Enumeration Methodology

Open-Ended Caste Column

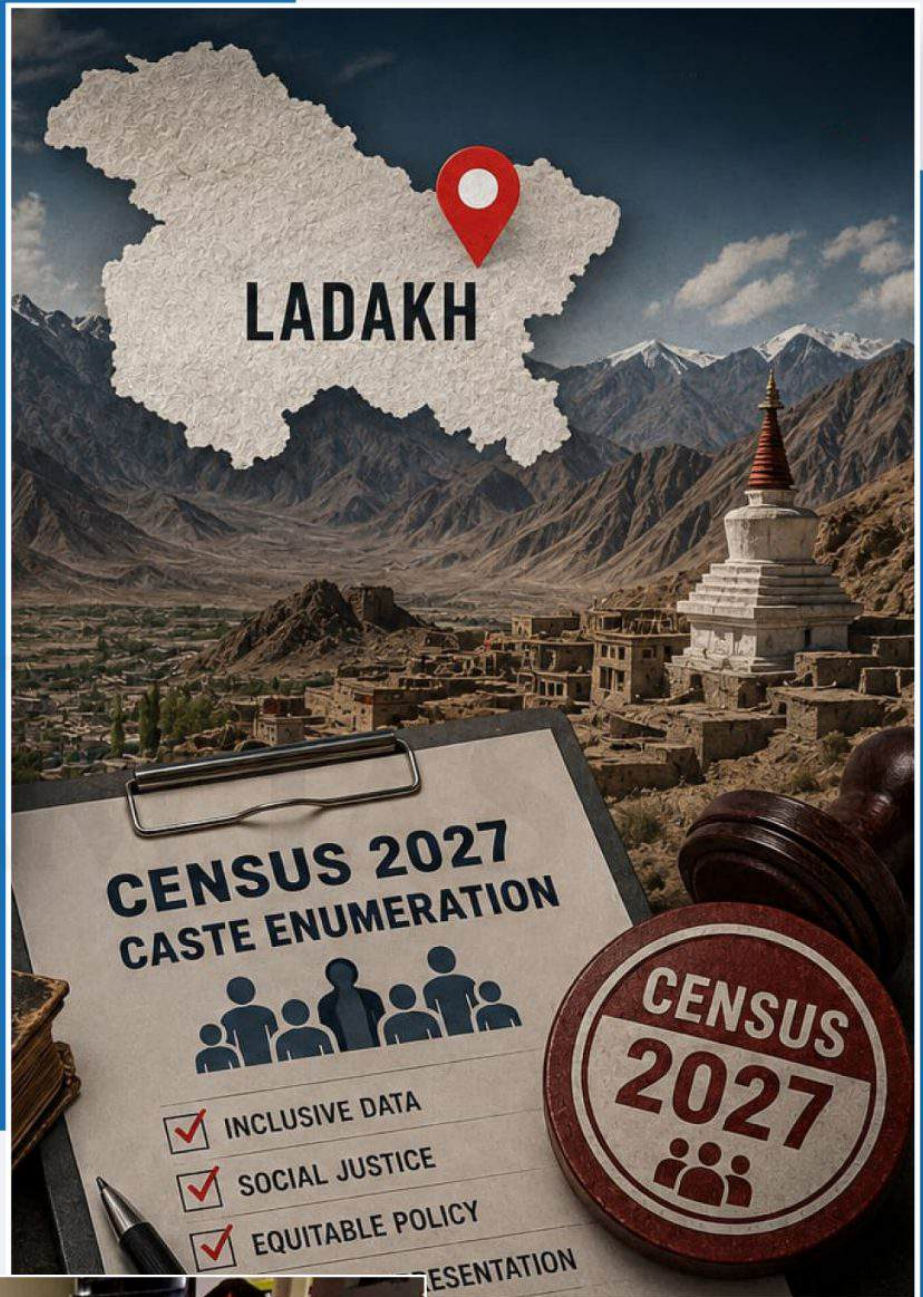
- Respondents other than Scheduled Castes (SCs) and Scheduled Tribes (STs) will state their caste in an open-ended column.
- For SC/ST respondents, a predetermined drop-down menu with state-specific lists will be available.
- Respondents also have the option to choose "Does not want to declare Caste" or "No Caste".
- Caste will be recorded "as declared by the respondent" rather than matched against a pre-defined list.

Pre-Test and Finalisation

- The caste enumeration methodology was tested during the Population Enumeration pre-test held from 1–20 July 2026 in 16 States and Union Territories.
- The methodology is likely to be retained in the final questionnaire.

Questionnaire Details

- The Population Enumeration schedule contains roughly 40 questions covering caste, demographic characteristics, and other population-related information.



- Caste appears as Question Number 10 under the heading "Scheduled Caste (SC)/Scheduled Tribe (ST)/Caste".
- Other questions include parents' religion, place of birth, and location of COVID-19 vaccination.

Early Enumeration in Snow-Bound Areas

Schedule

- House-to-house Population Enumeration

in Ladakh and designated snow-bound areas of Jammu & Kashmir, Himachal Pradesh, and Uttarakhand will be conducted from 1–30 September 2026.

• A revisional round will follow from 1–5 October 2026.

Reason for Early Start

- These regions face logistical challenges due to snow and difficult terrain.
- The reference date for these areas is 1 October 2026, compared to 1 March 2027 for the rest of the country.

Census 2027: India's First Digital Census

Digital Features

- Census 2027 will be India's first digital Census.
- Self-enumeration option available for respondents.



Security Exception

- Sensitive defence establishments along the Line of Actual Control (LAC) in Ladakh will be recorded through paper schedules as "special charges".

- This is to avoid geo-tagging and disclosure of strategic locations.

Conclusion

Census 2027 marks a historic departure from India's post-Independence census practice by including comprehensive caste enumeration for the first time since 1931. Ladakh's early enumeration from September 2026 will serve as a test case for the open-ended caste methodology, which has already sparked political debate over its effectiveness in capturing

accurate OBC data.

Previous Year Question (Prelims)

Q. Consider the following statements regarding the Census in India:

1. The last caste enumeration in India was conducted in 1931.
2. The Socio-Economic Caste Census (SECC) 2011 was conducted under the Census Act, 1948.
3. Census 2027 will be India's first digital Census.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 1 and 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

Answer: (b) 1 and 3 only.



Gorkhaland ISSUE

Why in News?

- The Gorkhaland demand has once again gained momentum in the Darjeeling hills of West Bengal
- Agitations and protests have been ongoing, demanding a separate state for the Gorkha community
- The issue highlights the complex federal structure, ethnic identity politics, and regional development disparities in India.

Historical Background

Colonial Era Origins

- Darjeeling was originally a part of Sikkim and Nepal before British annexation
- British East India Company acquired Darjeeling from the Raja of Sikkim in 1835
- The region was developed as a hill station and tea plantation hub
- Nepali-speaking population (Gorkhas) migrated to work in tea gardens and other

occupations

Post-Independence Period

- After independence in 1947, Darjeeling became part of West Bengal
- Linguistic and cultural distinctiveness of Gorkhas created tensions
- Gorkhas felt marginalized within West Bengal's political and administrative framework

Formation of Darjeeling Gorkha Hill Council (DGHC)

- Year: 1988
- Agitation Leader: Subhas Ghising
- Agreement: West Bengal government signed accord with Gorkha National Liberation Front (GNLF)
- Features:
 - Autonomous administrative body for Darjeeling hills
 - Limited powers over certain subjects like agriculture, education, and tourism
 - Did not satisfy the demand for a separate state

Gorkhaland Movement Phases

- First Phase (1980s): Intense agitation under GNLF, led to DGHC formation
- Second Phase (2008-2011): Renewed demand under Gorkha Janmukti Morcha (GJM), led by Bimal Gurung
- Third Phase (2013 onwards): Intermittent protests and political negotiations
- Recent Phase (2020s): Continued demands with new political actors emerging

Arguments For Gorkhaland

- Cultural and Linguistic Distinctiveness
- Gorkhas have distinct language (Nepali), culture, festivals, and traditions
- Nepali language was included in the Eighth Schedule of Indian Constitution in 1992
- Distinct identity justifies separate statehood demand

Economic Marginalization

- Darjeeling hills have witnessed economic stagnation
- Tea industry facing competition and declining profits



- Tourism sector underdeveloped compared to potential
- Insufficient funds allocated for hill development

Administrative Neglect

- Hill regions receive inadequate attention from Kolkata-based government
- Physical distance leads to governance deficit
- Local issues like landslides, infrastructure, education not addressed properly
- Developmental funds often delayed or insufficient

Historical Grievances

- Gorkha community feels historically discriminated against
- Contributions to Indian Army (Gorkha regiments) not adequately recognized
- Sense of political marginalization in West Bengal politics

Success of Other Hill States

- Precedence of smaller states like Uttarakhand, Himachal Pradesh, and Sikkim
- These states have shown better governance outcomes
- Hill-specific challenges need focused administrative attention

Natural Resources

- Darjeeling possesses significant natural resources including water, forests, and biodiversity
- Revenue from these resources should benefit local population
- Separate state would ensure better resource management

Demographic Argument

- Gorkha population forms majority in

Darjeeling hills

- Right to self-determination as a distinct community
- Similar to demands for other ethnic-based states in India

Arguments Against Gorkhaland

Viability Concerns

- Darjeeling hills have limited economic base
- Heavy dependence on West Bengal for subsidies and development funds
- Potential revenue deficit would require central government assistance
- Small geographic area may not justify statehood

Precedent Setting Fear

- Granting Gorkhaland could lead to similar demands from other regions
- Fragmentation of states could weaken national unity
- Many other communities may raise separatist demands
- Administrative burden of managing many small states

Historical and Political Integration

- Darjeeling has been historically part of West Bengal
- Political processes have integrated the region with West Bengal
- Separate state would disrupt existing administrative arrangements
- Possible negative impact on West Bengal's economy

Demographic Complexity

- Gorkhas are not the only community in the region



- Hill areas also have Lepcha, Bhutia, and other indigenous communities
- Non-Gorkha groups may feel marginalized
- Inter-community tensions could emerge

Alternative Solutions Available

- GTA provides substantial autonomy
- More powers can be devolved through constitutional provisions (Article 371)
- Development packages can address economic grievances
- Political representation can be enhanced without separate state

Security Concerns

- Darjeeling shares borders with Nepal, Bhutan, and China's Tibet Autonomous Region
- Separate state could complicate border

- management
- Strategic importance of the region requires central control
- Potential for foreign interference in local politics

Constitutional & Legal Hurdles

- State creation requires legislative process under Article 3 of Constitution
- Requires consent from state legislature and Parliament
- West Bengal government's opposition is a major hurdle
- Lengthy and complex constitutional process

Government Initiatives and Responses

Gorkhaland Territorial Administration (GTA)

- Provides substantial autonomy
- More powers than DGHC
- Financial transfers to GTA for development
- Elected body with some legislative powers

Development Packages

- Union government has provided special development packages
- Infrastructure projects in road, telecom, and tourism sectors
- Tea industry support measures
- Skill development programs for youth

Dialogue and Negotiation

- Union Home Ministry has facilitated dialogue
- Tripartite meetings between center, state, and Gorkha leaders
- Efforts to find middle path through con-

stitutional provisions

- Continuous engagement with all stakeholders

Economic Support Measures

- Special economic packages for Darjeeling hills
- Promotion of alternative livelihood options
- Tourism promotion campaigns
- Agricultural support for hill produce

Political Reforms

- Increasing representation of Gorkhas in state politics
- Constitutional safeguards for cultural and linguistic rights
- Recognition of Nepali as official language in West Bengal
- Protection of land rights and tenurial security

Way Forward

Strengthening GTA

- Grant greater powers and financial autonomy to GTA
- Make GTA a model for regional autonomy in India
- Constitutional protection for GTA's powers
- Regular elections and democratic functioning

Economic Development

- Focus on sustainable economic development of hills
- Promote eco-tourism, adventure tourism, and cultural tourism

- Develop tea industry and explore new markets
- Infrastructure development to connect hill regions

Political Inclusion

- Greater representation of Gorkhas in state politics
- Participation in policy formulation for the region
- Consultation with Gorkha leaders on important decisions
- Creation of grievance redressal mechanisms

Constitutional Alternatives

- Explore Article 371 type provisions for Darjeeling
- Special status within West Bengal
- Federal arrangement with greater autonomy
- Decentralized governance models

Peaceful Resolution

- Dialogue as the only viable path
- Involvement of all stakeholders including civil society
- Gradual process of devolution of powers
- Confidence building measures between communities

Addressing Root Causes

- Address economic grievances through development
- Cultural recognition and respect
- Administrative reforms to reduce distance from Kolkata
- Resource allocation based on needs of hill regions

Community Empowerment

- Strengthening of local self-governance

- Community participation in development
- Capacity building of local institutions
- Encouraging community-based organizations

Conclusion

The Gorkhaland issue represents a complex interplay of ethnic identity, historical grievances, economic disparities, and administrative challenges within India's federal structure. While the demand for a separate state has persisted for decades, a viable solution requires addressing the underlying causes of discontent rather than merely satisfying territorial aspirations.

Previous Year Question (Prelims)

Q. Consider the following statements regarding the creation of new states in India:

1. The power to create new states rests solely with the President of India.
2. A bill for creation of a new state can be introduced in either House of Parliament only with the prior recommendation of the President.
3. The President is required to refer the bill to the State Legislature concerned for its views within a specified time.

Which of the statements given above are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Answer: (b) 2 and 3 only.





INDIA'S FIRST NON-GMO HIGH-EXPANSION POPCORN MAIZE HYBRID SEED

Why in News?

- Vice-President launched India's first indigenous, non-GMO, high-expansion popcorn maize hybrid seed
- Launch at Gourmet Popcornica facility in Musunuru, Eluru district, Andhra Pradesh
- Marks significant step towards Aatmanirbhar Bharat in agriculture

About the Indigenous Popcorn Maize Hybrid Seed

Development and Collaboration

- Developed by: ICAR-Indian Institute of Maize Research (ICAR-IIMR) and Gourmet Popcornica
- Development Timeline: Nearly 11 years of research
- Process: Created 1,200 hybrids from American lines crossed with Indian varieties
- Narrowed to: 10 hybrids through station breeding trials
- Testing: Preliminary trials in 2023, advanced trials in 2024
- Trial Period: Five growing seasons across leading maize research



institutions

Seed Varieties

- Krisna459 and Godari234 - two high-expansion, non-GMO hybrid varieties
- Tailored to Indian tropical and soil conditions
- Match popping quality of leading global varieties

What Makes Popcorn Maize Special?

- Scientific Name: Zea mays (specialized flint corn variety)

- Popping Mechanism: Hard outer hull surrounds dense starch and moisture pocket
- When Heated: Steam builds pressure until hull bursts, turning inside out
- Expansion Ratio: Critical quality parameter for commercial popcorn industry

Non-GMO Nature

- Developed through conventional cross-breeding methods
- No foreign genetic traits inserted

- Highly preferred in global food processing sectors
- Combines three features: non-GMO, hybrid, and high-expansion

Maize in India - Context

Production Statistics

- Third most important food crop after rice and wheat
- Record production: 55.09 million tonnes in 2025-26
- Productivity: 3.19 tonnes/ha (below global average of 5.5-5.6 tonnes/ha)

Major Producing States

- Largest Producer: Madhya Pradesh
- Other Major States: Karnataka, Maharashtra, Bihar, Telangana

Changing Patterns

- Shift from northern kharif towards peninsular India
- Peninsular India: 40% area, 50% production
- Rabi maize expanding in Andhra Pradesh, Bihar, Telangana, West Bengal

Significance of the Development

Reducing Import Dependence

- India depended on imported hybrid technology for popcorn maize
- 70% of popcorn kernels imported from Brazil, Argentina, South Africa
- 70% of popcorn revenues going to foreign countries

Economic Benefits

- Estimated \$125 million in foreign exchange savings
- Wealth remains within country through domestic processing

Aatmanirbhar Bharat in Agriculture

- Demonstrates technology, innovation and indigenous seed development
- "A small beginning should lead to a big vision" - Vice-President

Farmer-Enterprise Partnership

- 17,500+ farmers across eight States, cultivating 40,000 acres
- Strengthening market access and income opportunities

Domestic Processing Capacity

- Gourmet Popcornica commands 70% share of national popcorn market
- One of Asia's largest non-GMO expandable popcorn processing centres
- Supplies to 3,400+ cinema screens across India

Make in India

- Indigenous solution competing in global markets
- Homegrown answer to import dependence

Challenges and Concerns

Genetic Constraints

- Popcorn breeding constrained due to narrow genetic base
- Significant import dependence persists

Climate Vulnerability

- Maize cannot tolerate incessant rains
- More susceptible to weather fluctuations than paddy
- Emerging El Niño conditions pose challenges

Adoption by Farmers

- Popcorn maize not historically popular with farmers
- Need to demonstrate economic viability and market linkages

Infrastructure and Supply Chain

- Need for processing infrastructure, cold storage, quality control facilities
- Market access and integration essential

Competition

- Must match quality and price of established imported varieties
- Building brand recognition for Indian popcorn.

Conclusion

The launch of India's first indigenous non-GMO high-expansion popcorn maize hybrid seed marks a watershed moment in agricultural self-reliance. Developed through 11 years of collaboration between ICAR-IIMR and Gourmet Popcornica, Krishna459 and Godari234 varieties address India's dependence on imported popcorn kernels, potentially saving \$125 million in foreign exchange annually.

Previous Year Question (Prelims)

Q. With reference to the cultivation of maize in India, consider the following statements:

1. Maize is the second most important food crop in India after rice.
2. Madhya Pradesh is currently the largest maize-producing state in India.
3. India's maize productivity is higher than the global average.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) 1 and 3 only
- (d) 2 and 3 only

Answer: (b) 2only.



SATKOSIA TIGER RESERVE (STR) :

ABOUT SATKOSIA TIGER RESERVE

- **Location:** Situated in Odisha, spread across four districts – Angul, Cuttack, Boudh and Nayagarh
- **Total Area:** 963.87 sq km (Core: 523.61 sq km; Buffer: 440.26 sq km); some sources mention 1,136.70 sq km including additional areas
- **Notification as Tiger Reserve:** Declared in December 2007
- **Formation:** Created by combining two adjoining sanctuaries of central Odisha – Satkosia Gorge Sanctuary (notified in 1976) and Baisipali Sanctuary (notified in 1981)
- **Name Origin:** "Sat-Kosh" means seven miles long – referring to the narrow stretch of River Mahanadi near TIKARAPADA, 60 km south of Angul



GEOGRAPHICAL SIGNIFICANCE

- Biogeographic Location: Lies at the meeting point of Deccan Peninsula and Eastern Ghats biogeographic regions
- Mahanadi Gorge: Characterised by a magnificent 22.5 km long gorge through which the Mahanadi River flows
- Unique Geomorphology: Mahanadi cuts right across the Eastern Ghats, forming a spectacular gorge – a unique feature in India's geomorphology
- Elevation: Ranges from 37 metres (lowest at Katarang) to 932 metres (highest peak at Sunakhania)
- Ramsar Site: Satkosia Gorge was designated as a Ramsar site in 2021.

BIODIVERSITY

Flora:

- Dominated by Tropical Moist Deciduous Forests and Moist Peninsular Low Level Sal forests
- Over 400 plant species including 126 tree species (Sal as dominant species), 98 shrubs, 125 herbs and 51 climbers
- Other important species: Asan, Dhaura, Bamboo, Simal, Arjuna and Phasi trees

Fauna:

- Mammals: 38 species including Tiger, Leopard, Elephant, Gaur (Indian Bison), Chousingha (Four-horned antelope), Sloth Bear, Wild Dog (Dhole), Sambar, Barking Deer, Giant Squirrel
- Birds: 161 species
- Reptiles: 27 species including Gharials, Mugger Crocodiles, and four species of endangered freshwater turtles (Chitra indica, Lissemys punctata, Kachuga kachuga, Trionyx gangeticus)
- Fish: 183 species
- Crocodile Conservation: GRACU (Gharial Research and Conservation Unit) started in 1975 with UNDP and FAO support for conservation breeding and rehabilitation
- Elephant Landscape: Part of the Mahanadi Elephant Reserve, important for elephant conservation and habitat connectivity

TIGER POPULATION DECLINE – A MAJOR CONCERN

Year Tiger Population
2007 12 tigers
2010 8 tigers (estimated 7-9)
2018-19 1 tiger



2022 Zero tigers (All-India Tiger Estimation report)
• Odisha's overall tiger population declined from 45 in 2006 to 20 in 2022
• Satkosia is the only tiger reserve in India with zero tigers as per 2022 census

TIGER REINTRODUCTION EFFORTS

First Inter-State Tiger Relocation (2018):

- India's first inter-state tiger relocation programme was attempted in Satkosia
- A male tiger was brought from Kanha Tiger Reserve and a tigress (named Sundari) from Bandhavgarh Tiger Reserve, both in Madhya Pradesh
- Outcome – Failure: Male tiger was killed in a poacher's snare; tigress strayed into human settlements, triggered resistance from villagers, and was eventually sent back to Madhya Pradesh

Second Phase (2023-24 onwards) :

- NTCA gave in-principle approval for re-summing tiger re-introduction in Satkosia
- Pre-requisites include: voluntary village relocation, prey augmentation, creation of inviolate space, capacity-building of staff, and stronger protection measures

CONSERVATION CHALLENGES

Human Habitations Large number of villages in core, buffer and impact zones
Human-Wildlife Conflict Frequent conflicts due to proximity of settlements
Poaching Subsistence hunting and organised poaching
Habitat Degradation Forest fires (for mahua flower collection), invasive species, cattle grazing
Funding Issues Uncertain and delayed funding affects anti-poaching operations
Corridor Threats Mining and developmental activities threaten

Similipal-Satkosia corridor
Tiger Extinction Zero tigers as per 2022 census – ecological imbalance

PROTECTION MEASURES IN PLACE

- 105 permanent anti-poaching camps
- M-STripes (Monitoring System for Tigers – Intensive Protection and Ecological Status) with 58 VHF base stations
- 138 walkie-talkies and 95 mobile cell phones for communication
- Sniffer dog for tracking
- 92 Eco-Development Committees (EDCs) formed involving local communities
- Eco-tourism: Tourism complex at Badmul (Satkosia Sands Resort) managed by EDC generating employment

CONCLUSION

Satkosia Tiger Reserve represents a classic conservation dilemma where the twin objectives of wildlife protection and human rights are in direct conflict. Once home to 12 tigers in 2007, the reserve now has zero tigers – making it a case study in failed conservation. The 2018 inter-state tiger relocation experiment failed tragically, while the subsequent village relocation drive was marred by procedural lapses, leading to OHRC intervention and the formation of a high-level inquiry committee.

PRELIMS PRACTICE QUESTION

Q. Consider the following statements regarding Satkosia Tiger Reserve:

1. It is located in Odisha and comprises two adjoining sanctuaries – Satkosia Gorge Sanctuary and Baisipali Sanctuary.
2. The Satkosia Gorge has been designated as a Ramsar site.
3. As per the All-India Tiger Estimation 2022, the reserve has a tiger population of more than five.
4. It lies at the meeting point of the Deccan Peninsula and Eastern Ghats biogeographic regions.

Which of the statements given above are correct?

- (a) 1, 2 and 4 only
- (b) 1, 3 and 4 only
- (c) 2 and 3 only
- (d) 1, 2, 3 and 4

Answer: (a) 1, 2 and 4 only

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