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UPPCS Prelims 2026: The Top Chapters Book (Repeat Facts + Complete Lists)

1. What the latest 11 UPPCS papers show (2015–2025)

We read every question of the **11 UPPCS Prelims papers from 2015 to 2025 (1,469 questions)** and sorted each one by subject and by the way it was asked.

How many questions per subject (average per paper, 2021–2025, out of 150)

Subject	Geography	Current affairs	History	Polity	Economy	Science	Environment
Questions per paper	**26**	25	24	22	20	18	14

Every subject matters. No single subject gives more than about one question in six, so the paper rewards the chapters that come back in every subject.

How UPPCS asks: the format changed in 2024

Year	One-line	Statements / "which of these"	Match	Order	Assertion–Reason
2015	99	3	12	2	4
2019	65	15	23	11	12
2021	104	15	18	6	7
2023	90	30	20	5	5
2024	**20**	**54**	**39**	**19**	**18**
2025	**0**	**76**	**33**	**21**	**20**

Plain one-line questions have almost disappeared. In 2025 every question was a full list, a match, an order or an Assertion–Reason. The fact itself is still easy; the question now needs **the whole list**.

Which question types to prepare for

Rank	Type	How often	Typical ask
1	**Full list: "which of these is / are NOT"**	76 in 2025	Ramsar sites not in UP · which saint is not a Bhakti poet
2	**Match four pairs**	33–39 a paper	pass ↔ state · book ↔ author · dam ↔ river
3	**Order by time**	21 in 2025	Peshwas · Alauddin's campaigns · Gandhian movements
4	**Assertion–Reason**	20 in 2025	needs the cause, not just the name
5	**Near-repeat of an older PYQ**	about 10 a paper	the same fact, sometimes the same options, 1–5 years later
6	**Statements on one body or scheme**	rising	Attorney General · Finance Commission · a scheme's ministry and year
7	**UP Special** (any subject)	8–22 a paper	UP district ↔ place · UP census · UP protected areas · UP history sites

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Rank	Type	How often	Typical ask
8	**Census 2011 extremes**	10 of 11 papers	densest state · lowest sex ratio · highest literacy
9	**Who publishes / who founded**	steady	report → publisher · body → founder
10	**First / largest / only**	steady	first national park · largest lagoon

Five rules from the pattern

1. **Learn complete lists, not single facts.** A "which is NOT" question can pick any item of the list.
2. **Every History item needs a year.** Years are no longer asked directly, but order questions cannot be solved without them.
3. **Geography is a matching game:** place ↔ state, country, river or mineral.
4. **UPPCS repeats itself.** 95 pairs of questions across the 11 papers are near-copies.
5. The repeat facts in this book carry a **×n** tag.
6. **UP comes in every subject.** Never skip the UP lines.

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2. The Weight Map: how these chapters were picked

We counted every UPPCS Prelims PYQ chapter by chapter and picked the chapters that carry the most questions.

- The **16 Weight Map chapters** carry 1,506 of 5,759 UPPCS PYQs (**26.2%**).
- That is about **one in every four** UPPCS Prelims questions ever asked, from just 16 chapters.

Inside each subject, the chapters are arranged **by weight**: the chapter with the most UPPCS PYQs comes first. The number is how many UPPCS Prelims questions that chapter has had so far.

Subject	Chapter in this book	UPPCS PYQs so far
A. History	1. **Newspapers, Books, Governors & Chronology**	**147** · 14.7% of Modern India
	2. **World War II, INA & Independence**	**94** · 9.4% of Modern India
	3. **Sultanate + Mughal: Miscellaneous**	**83** · 15.4% of Medieval
	4. **Revolutionary Movements: India & Abroad**	**75** · 7.5% of Modern India
B. Geography	5. **Agriculture & Animal Husbandry**	**104** · 11.4% of Geography
	6. **Mineral Resources**	**100** · 11.0% of Geography
	7. **Drainage System**	**82** · 9.0% of Geography
	8. **Countries, Capitals & Boundaries**	**77** · 11.1% of World Geography
	9. **Energy Resources**	**76** · 8.3% of Geography
	10. **Irrigation & River Valley Projects**	**73** · 8.0% of Geography
C. Science	11. **Human Diseases**	**158** · 24.6% of Biology
	12. **Human Physiology**	**116** · 18.1% of Biology
D. Polity	13. **Articles, Schedules & Parts**	**90** · 14.9% of Polity
	14. **Parliament**	**74** · 12.2% of Polity

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Subject	Chapter in this book	UPPCS PYQs so far
E. Environment	15. **Protected Areas**	**84** · 19.8% of Environment
	16. **Pollution**	**73** · 17.2% of Environment

How to read these notes

- **×3** = UPPCS has asked this fact three times.
- The more it repeats, the more it comes back.
- **Grey years** (2015, 2019) = the UPPCS Prelims papers that asked it. "RO" marks the RO/ARO exam.
- **Complete list** = the full table below each topic, so a new question on the same theme is covered too.
- **Not asked yet** = the fact sits in the same chapter but UPPCS has not asked it so far.
- These are the next likely questions.
- **Likely ask** = the way the question usually comes.

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What UPPCS asked **+ what it has not asked yet**

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2,918 facts UPPCS asks again and again

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Section A: History

4 chapters

Chapter 1: Newspapers, Books, Governors & Chronology (147 PYQs · 14.7% of Modern India)

PYQ 2021 · ×4 = UPPCS asked this in 2021; asked 4 times in all (different years) · years inside a fact (like 1784) are part of the fact

The one idea: this is the **"who did what, when"** chapter of Modern India. Four lists carry it: **Governors-General**, **newspapers**, **books**, and the **timeline** of the freedom movement. Most questions are matching or ordering.

Education and institutions

- **Asiatic Society, Calcutta, 1784**: **William Jones**, under **Warren Hastings** PYQ 2021 · ×4
- **Hindu College** (1817), the first college, Calcutta.
- **Banaras Sanskrit College**: **Jonathan Duncan** PYQ 2006
- First British madrasa: **Calcutta**.
- English education came under **William Bentinck**; **Macaulay** gave the **filtration theory** PYQ 2007 · ×3
- Indian universities (1857) followed the **London University** model.
- **Hunter Commission** stressed **primary** education PYQ 2004
- **Sadler Commission** (1917) = Calcutta University.
- **D.K. Karve** founded the first women's university (1916) PYQ ×2
- **Kashi Vidyapith**: **Shiv Prasad Gupta**.
- **Deccan Education Society**: **Tilak**.
- **Madan Mohan Malaviya** wanted religious teaching in universities.
- Portuguese brought the **first printing press** to **Goa**.
- **Wellesley** began press censorship; **Lord Hastings** supported a free press; **Metcalfe** freed the press; **Ripon** repealed the Vernacular Press Act.
- **Servants of India Society: Gokhale**, 1905 PYQ 2017
- **Satyashodhak Samaj: Phule, 1873** PYQ 1997
- **Radhasoami Satsang: Shiv Dayal Sahib** PYQ 2002
- **Muslim League**: Nawab **Salimullah** PYQ 2007
- **All India Kisan Sabha**: first president **Swami Sahajanand Saraswati** PYQ 2015
- **Depressed Classes League: Jagjivan Ram** PYQ 2000
- **Dev Samaj: Shiv Narayan Agnihotri**.
- **Harijan Sevak Sangh** (1932): Gandhi; first president **G.D. Birla** PYQ 1994; earlier named the **All India Anti-Untouchability League** PYQ ×3
- **Independent Labour Party: Ambedkar**.
- **RSS: Nagpur**.
- Wrong pairs asked:
  - ✗ **Atmiya Sabha** was Ram Mohan Roy's (not Debendranath's)
  - ✗ **Adi Brahmo Samaj** was Debendranath's (not Ram Mohan Roy's)
  - ✗ **Ranade** was Prarthana Samaj (not Theosophical)
  - ✗ **Bahishkrit Hitkarini Sabha** was Ambedkar's (not Phule's)
  - ✗ **All India Kisan Sabha** was not Narendra Dev's.

Likely ask: Organisation ↔ founder.

Complete list: education milestones

Year	Step	Under
1781	**Calcutta Madrasa**	Warren Hastings
1784	**Asiatic Society of Bengal** (William Jones)	Warren Hastings
1791	**Banaras Sanskrit College** (Jonathan Duncan)	Cornwallis
1800	**Fort William College** (to teach Indian languages to British officers)	Wellesley
1813	Charter Act: ₹1 lakh a year for education	Lord Hastings
1817	**Hindu College**, Calcutta (David Hare, Ram Mohan Roy)	
1835	**Macaulay's Minute**; English as medium; filtration theory	**Bentinck**
1854	**Wood's Despatch** ("Magna Carta of English education")	**Dalhousie**
1857	Universities of Calcutta, Bombay, Madras (London model)	**Canning**
1882	**Hunter Commission** (primary education)	**Ripon**

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Year	Step	Under
1904	**Indian Universities Act** (after the Raleigh Commission)	**Curzon**
1916	**BHU** (Malaviya) · **SNDT Women's University** (D.K. Karve)	
1917	**Sadler Commission** (Calcutta University)	Chelmsford
1920 / 1921	**Jamia Millia Islamia**, **AMU** (from Sir Syed's MAO College, 1875) / **Kashi Vidyapith**	
1937	**Wardha scheme** of basic education (Gandhi, Zakir Hussain)	
1944	**Sargent Plan**	Wavell

Complete list: organisations and founders

Organisation	Year	Founder
Atmiya Sabha	1815	**Ram Mohan Roy**
Brahmo Samaj	1828	Ram Mohan Roy
Landholders' Society	1838	**Dwarkanath Tagore**
Tattvabodhini Sabha · **Adi Brahmo Samaj**	1839 · 1866	**Debendranath Tagore**
Young Bengal	1820s	Henry Derozio
Radhasoami Satsang	1861	Shiv Dayal Sahib, **Agra**
Darul Uloom, Deoband	1866	Qasim Nanautavi, Rashid Ahmad Gangohi
East India Association	1866	**Dadabhai Naoroji**, London
Prarthana Samaj	1867	**Atmaram Pandurang** (with Ranade)
Poona Sarvajanik Sabha	1870	M.G. Ranade
Satyashodhak Samaj	1873	**Jyotiba Phule**
Arya Samaj	1875	Dayanand Saraswati, Bombay
Theosophical Society	1875 (India: Adyar, 1886)	Blavatsky, Olcott; spread by **Annie Besant**
Indian Association	1876	**S.N. Banerjee**, A.M. Bose, Calcutta
Deccan Education Society	1884	**Tilak**, Agarkar, Chiplunkar
Bombay Presidency Association	1885	Pherozeshah Mehta, Telang, Tyabji
Dev Samaj	1887	Shiv Narayan Agnihotri, Lahore
Nadwatul Ulama, Lucknow	1894	Shibli Nomani and others
Ramakrishna Mission	1897	**Vivekananda**
Servants of India Society	1905	**Gokhale**
Muslim League	1906	Dhaka (Aga Khan, Salimullah)
Indian Society of Oriental Art	1907	**Abanindranath Tagore**
Hindu Mahasabha	1915	Madan Mohan Malaviya and others
AITUC	1920	First president **Lala Lajpat Rai**; Nehru president in 1929
Bahishkrit Hitkarini Sabha	1924	**Ambedkar**
RSS	1925	K.B. Hedgewar, **Nagpur**
Harijan Sevak Sangh	1932	**Gandhi**; first president **G.D. Birla**
All India Kisan Sabha	1936	Lucknow; president **Swami Sahajanand Saraswati**
Independent Labour Party	1936	**Ambedkar**

Newspapers

- First newspaper: **Bengal Gazette** (Hicky, 1780).
- First Hindi paper: **Udant Martand**, **Calcutta, 1826**.
- **Mirat-ul-Akhbar** (Persian): **Ram Mohan Roy**.
- **Hindu Patriot**: first English paper by Indians; editor **Harish Chandra Mukherjee** backed the Indigo revolt.
- **Indian Mirror**: Calcutta.
- **Kesari: Tilak** PYQ 1990
- **Al-Hilal: 1912** (Azad).
- **Annie Besant: New India, Commonweal** PYQ 2004 · ×3
- **Independent: Motilal Nehru** PYQ ×2
- **Qaumi Awaz: Nehru**.
- **Bahishkrit Bharat: Ambedkar** PYQ ×2
- **Tahzib-ul-Akhlaq: Sir Syed**.
- **Vande Mataram** (revolutionary paper): **Bhikaji Cama**; the English weekly *Vande Mataram*: **Aurobindo**; Urdu *Vande Mataram* (Lahore, 1920): **Lala Lajpat Rai**.

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- **Kaal** criticised the Congress.
- **The Socialist: S.A. Dange**.
- Gandhi was **not** linked to **Yugantar**.
- **Young India** began as a weekly of the **Home Rule party**.
- **Indian Opinion** was **not** in Urdu PYQ 2005, 2014
- **Swadeshabhimani: K. Ramakrishna Pillai** PYQ 2005
- **Pratap** (Kanpur) carried Vijay Singh Pathik's **Bijolia** movement PYQ 2012
- **H.W. Nevinson**, a British journalist, wrote on the **Swadeshi** movement PYQ 2014; **Webb Miller** reported the **Dharasana** salt satyagraha PYQ 2021
- **Surendranath Banerjee** was the first Indian journalist jailed for his duty.

Likely ask: Newspaper ↔ founder or editor.

Complete list: newspapers and journals

Paper	Language	Founder / editor
Bengal Gazette (1780)	English	James Augustus Hicky (first in India)
Sambad Kaumudi · **Mirat-ul-Akhbar**	Bengali · Persian	**Ram Mohan Roy**
Udant Martand (1826)	Hindi (first)	Jugal Kishore Shukla, Calcutta
Rast Goftar · **Voice of India**	Gujarati · English	**Dadabhai Naoroji**
Hindu Patriot (1853)	English	Harish Chandra Mukherjee
Som Prakash	Bengali	**Ishwar Chandra Vidyasagar**
Indian Mirror	English	Debendranath Tagore; edited by N.N. Sen
Amrita Bazar Patrika (1868)	Bengali → English	**Sisir Kumar Ghosh, Moti Lal Ghosh**
The Hindu (1878)	English	G. Subramania Iyer, Veeraraghavachariar
Kesari · **Mahratta** (1881)	Marathi · English	**Tilak**
Bengalee	English	**S.N. Banerjee**
Tahzib-ul-Akhlaq	Urdu	**Sir Syed Ahmad Khan**
Swadeshabhimani	Malayalam	**K. Ramakrishna Pillai**
Indian Opinion (1903)	English, Gujarati, Hindi, Tamil	**Gandhi** (South Africa)
Yugantar (1906)	Bengali	Barindra Ghosh, Bhupendranath Dutta
Vande Mataram (1906)	English	**Aurobindo Ghosh**
Vande Mataram (1909)	—	**Bhikaji Cama** (Paris/Geneva)
Al-Hilal (1912) · **Al-Balagh**	Urdu	**Abul Kalam Azad**
Comrade · **Hamdard**	English · Urdu	**Mohammad Ali**
Pratap (1913)	Hindi	**Ganesh Shankar Vidyarthi**, Kanpur
Ghadar (1913)	Urdu, then 4 languages	**Lala Hardayal**
New India · **Commonweal**	English	**Annie Besant**
Independent (1919)	English	**Motilal Nehru**
Young India · **Navjivan** · **Harijan**	English · Gujarati · English/Hindi	**Gandhi**
Mook Nayak (1920) · **Bahishkrit Bharat** (1927)	Marathi	**Ambedkar**
Leader · **Abhyudaya**	English · Hindi	**Madan Mohan Malaviya** (Allahabad)
The Socialist (1922)	English	**S.A. Dange**
National Herald (1938) · **Qaumi Awaz**	English · Urdu	**Jawaharlal Nehru**

Press law	Year	Governor-General
Censorship of Press Act	1799	**Wellesley**
Licensing Regulations	1823	John Adam
Press Act (freedom of press)	1835	**Metcalfe** ("liberator of the Indian press")
Vernacular Press Act ("gagging act")	1878	**Lytton**; repealed by **Ripon** (1882)
Newspapers (Incitement to Offences) Act	1908	Minto II
Indian Press Act	1910	Minto II

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Books

- **Poverty and Un-British Rule in India: 1901** (Naoroji) PYQ 2021
- **Indian War of Independence 1857: Savarkar**.
- **India Wins Freedom: Azad** PYQ ×2
- **The Indian Struggle: Subhas Bose** PYQ ×2; **Springing Tiger** (Hugh Toye) is his biography.
- **Anandmath** is based on the **Sanyasi Rebellion** PYQ ×3
- **Nil Darpan: Dinabandhu Mitra** PYQ 2015
- **Gulamgiri: Phule** PYQ 2000
- **Hind Swaraj**: Gandhi, written in **Gujarati**; it calls the British Parliament "sterile".
- **Annihilation of Caste: Ambedkar**.
- **Why I am an Atheist** and **An Introduction to the Dreamland: Bhagat Singh**.
- **Rafiq Zakaria: The Man Who Divided India** PYQ ×3
- **Frank Moraes**: biography of Nehru.
- **Louis Fischer, B.R. Nanda**: biographers of Gandhi.
- **Durga Das: India from Curzon to Nehru**.
- **Lohia: Guilty Men of India's Partition**.
- **Bipan Chandra: India's Struggle for Independence**.
- **Katherine Mayo: Mother India**.
- **Sachindra Sanyal: Bandi Jivan**.
- **Curzon: Problems of the Far East**.
- Tilak wrote on the **Arctic home of the Aryans**; *Paradise Found* is not his.
- Wrong pairs asked:
  - ✗ **Unhappy India** is **Lala Lajpat Rai's** (not Tilak's)
  - ✗ **Hind Swaraj** is Gandhi's (not Nehru's)
  - ✗ **Indian Sociologist** is Shyamji Krishna Varma's (not Bhagat Singh's).
- **Saare Jahan Se Achha: Iqbal**.
- **Jana Gana Mana** was first sung on **27 December 1911**.
- Tagore: **Nobel 1913**; began painting at about **70**.

Likely ask: Book ↔ author.

Complete list: books and authors

Book	Author
Poverty and Un-British Rule in India (1901)	Dadabhai Naoroji
Economic History of India	R.C. Dutt
Anandmath (Vande Mataram)	Bankim Chandra Chatterjee
Nil Darpan	Dinabandhu Mitra
Gulamgiri	Jyotiba Phule
Gita Rahasya, **The Arctic Home in the Vedas**	Tilak
The Indian War of Independence, 1857	V.D. Savarkar
Hind Swaraj (1909), **My Experiments with Truth**	Gandhi
Unhappy India, **Young India**	Lala Lajpat Rai
The Life Divine	Aurobindo Ghosh
Annihilation of Caste, **Who Were the Shudras?**	Ambedkar
Discovery of India (written in **Ahmednagar Fort** jail), **Glimpses of World History**	Nehru
The Indian Struggle	Subhas Chandra Bose
India Wins Freedom	Abul Kalam Azad
Why I am an Atheist	Bhagat Singh
Bandi Jivan	Sachindra Nath Sanyal
Mother India	Katherine Mayo
Springing Tiger	Hugh Toye
The Man Who Divided India	Rafiq Zakaria
India from Curzon to Nehru and After	Durga Das
Guilty Men of India's Partition	Ram Manohar Lohia
India's Struggle for Independence	Bipan Chandra
Freedom at Midnight	Larry Collins, Dominique Lapierre
Bapu: My Mother	Manubehn Gandhi
Jnana Yoga, Karma Yoga, Raja Yoga	Swami Vivekananda
Problems of the Far East	Curzon

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Governors-General and Viceroys

- **Warren Hastings** ended the dual government in Bengal and was **impeached** in Britain.
- **Cornwallis**: civil services, the judicial system PYQ 1991 and the **Permanent Settlement** (Istimrari) PYQ 1991, 2007, 2020; his tomb is at **Ghazipur**.
- **Clive** = "heaven-born general".
- **Lord Hastings**: Anglo-Nepal war.
- **Bentinck** took over **Mysore** for misrule PYQ 2003
- **Ellenborough** annexed **Sindh (1843)** and abolished slavery PYQ 2001, 2008
- **Dalhousie** set up the **PWD**.
- **Canning** was Viceroy in **1857** PYQ 1990, 2012 and made **Allahabad** the emergency headquarters PYQ 2005
- **John Lawrence**: "masterly inactivity" PYQ ×2
- **Mayo**: first census PYQ 2000; killed in the Andamans PYQ 2004 · ×3
- **Ripon**: **local self-government (1882)** and the **Ilbert Bill** PYQ 1994, 1996, 2010, 2015 · ×4
- **Dufferin** called the Congress a "microscopic minority" PYQ 2018
- **Curzon** hoped to see the Congress fall PYQ 2002; **Sir Andrew Fraser** was Lieutenant-Governor of Bengal at the partition PYQ 2014
- The partition was annulled in **1911** PYQ 1991, 1993, under **Hardinge**, who moved the capital to Delhi PYQ 1990
- **Chelmsford** was Viceroy at Jallianwala PYQ 1990; **Sankaran Nair** resigned from the Viceroy's Council over it PYQ 2013
- Aurangzeb expelled the English governor **Sir John Child** PYQ 2016
- **Curzon**: **Ancient Monuments Act**, **Archaeological Survey**, **railway reforms (Robertson)**; Gokhale compared him to **Aurangzeb**.
- **Hardinge** had a bomb thrown at him.
- **Reading** was the only Jewish Viceroy.
- Longest-serving Viceroy, as per the key: **Curzon**.
- The **Governor-General** appointed the first PM PYQ 2001
- **Mountbatten**: first Governor-General of free India; called Gandhi a "one-man boundary force".
- **C.**
- **Rajagopalachari**: the only Indian Governor-General.
- **Jinnah**: Governor-General of Pakistan.
- Acts asked: the **Regulating Act 1773** set up the first Supreme Court PYQ 1998; the **Charter Act 1833** ended the Company's **tea** monopoly PYQ 2015; the **Indian High Courts Act 1861** set up High Courts in Bombay, Madras and Calcutta PYQ 2013; the **1909 Act** brought **separate electorates** PYQ 2004, 2005
- Wrong pairs asked:
  - ✗ masterly inactivity is **not** Canning's PYQ 1998
  - ✗ **John Shore** did not fight the Anglo-Nepal war
  - ✗ **Cornwallis** did not fight the Third Anglo-Maratha war
  - ✗ **local self-government** is not Lytton's
  - ✗ **Lytton** did not start the First Afghan war.

Likely ask: Governor-General ↔ event.

Complete list: Governors-General and Viceroys

Ruler	Years	Main events
Robert Clive (Governor of Bengal)	1757–60, 1765–67	**Dual government**; Treaty of Allahabad (1765)
Warren Hastings (first Governor-General of Bengal)	1772–1785	Ended dual government; **Regulating Act 1773**; Asiatic Society; Rohilla war; impeached
Cornwallis	1786–1793	**Permanent Settlement (1793)**; civil services; police; Third Anglo-Mysore war
John Shore	1793–1798	Non-intervention
Wellesley	1798–1805	**Subsidiary Alliance**; **Fourth Anglo-Mysore war (1799)**; Fort William College
Minto I	1807–1813	**Treaty of Amritsar** (1809) with Ranjit Singh
Lord Hastings	1813–1823	**Anglo-Nepal war**; **Third Anglo-Maratha war**; Pindaris
Amherst	1823–1828	First Anglo-Burmese war
William Bentinck (first Governor-General of India, 1833)	1828–1835	**Sati banned (1829)**; thugs suppressed; **English education (1835)**
Metcalfe	1835–1836	Freed the press
Auckland	1836–1842	**First Anglo-Afghan war**
Ellenborough	1842–1844	**Sindh annexed (1843)**; slavery abolished
Hardinge I	1844–1848	**First Anglo-Sikh war**

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Ruler	Years	Main events
Dalhousie	1848–1856	**Doctrine of Lapse**; Punjab (1849), **Awadh (1856)**; **railway (1853)**, telegraph, **PWD**; Wood's Despatch; Widow Remarriage Act
Canning (first Viceroy, 1858)	1856–1862	**Revolt of 1857**; universities; Indian Councils Act 1861
John Lawrence	1864–1869	**Masterly inactivity** towards Afghanistan
Mayo	1869–1872	**First census (1872)**; financial decentralisation; killed in the Andamans
Lytton	1876–1880	**Vernacular Press Act**, Arms Act (1878); Delhi Durbar (1877); **Second Afghan war**
Ripon	1880–1884	**Local self-government (1882)**; repealed VPA; first Factory Act (1881); Hunter Commission; **Ilbert Bill**; first regular census (1881)
Dufferin	1884–1888	**Congress founded (1885)**
Lansdowne	1888–1894	Indian Councils Act 1892; **Durand Line** (1893)
Curzon	1899–1905	**Partition of Bengal (1905)**; Universities Act; Ancient Monuments Act; Archaeological Survey; police and railway reforms
Minto II	1905–1910	**Muslim League (1906)**; **Surat split (1907)**; **Morley–Minto reforms (1909)**
Hardinge II	1910–1916	**Delhi Durbar 1911**; partition annulled; capital to Delhi; bomb attack (1912)
Chelmsford	1916–1921	**Montford reforms (1919)**; **Rowlatt Act**; **Jallianwala Bagh**
Reading	1921–1926	Chauri Chaura; Moplah revolt; Kakori
Irwin	1926–1931	**Simon Commission**; **Deepavali Declaration (1929)** on dominion status; **Gandhi–Irwin Pact**
Willingdon	1931–1936	**Communal Award**; **Poona Pact**; **Government of India Act 1935**
Linlithgow	1936–1943	August Offer; Cripps Mission; **Quit India**
Wavell	1943–1947	**Shimla Conference**; Cabinet Mission
Mountbatten	1947–1948	**3 June Plan**; first Governor-General of free India
C. Rajagopalachari	1948–1950	Only Indian Governor-General

Chronology

- UPPCS asks many **"arrange in order"** questions: Rowlatt Satyagraha → Jallianwala → Amritsar Congress (1919) → Non-Cooperation → Chauri Chaura → Simon → Nehru Report → Lahore (1929) → Civil Disobedience → Gandhi–Irwin → Second Round Table → Communal Award → Poona Pact → Cripps → Quit India → Wavell Plan → Cabinet Mission.
- Wrong pairs asked:
  - ✗ **Communal Award** was **1932** (not 1933)
  - ✗ **Subsidiary Alliance** was 1798 (not 1863)
  - ✗ **Kakori** was **1925** (not 1924)
  - ✗ **Jinnah** was **not** in the Khilafat movement
  - ✗ **Non-Cooperation** was 1920 (not 1930).
- **Bengal famine: 1943**.
- **Operation Polo** = Hyderabad (1948).
- **Junagadh, Hyderabad and Kashmir** delayed joining India.
- **Bhikaji Cama** first unfurled the Indian flag.
- **Sarojini Naidu** called Jinnah the "ambassador of Hindu–Muslim unity".
- **Attlee**: "imperialism is dead as the dodo".

Likely ask: Arrange these events in order.

Complete list: freedom movement timeline

Year	Event
1885	Indian National Congress (Bombay; first president **W.C. Bonnerjee**)
1905	**Partition of Bengal**; Swadeshi movement
1906	**Muslim League** (Dhaka); Calcutta Congress demands Swaraj
1907	**Surat split**
1909	**Morley–Minto reforms**; separate electorates
1911	Partition annulled; capital to Delhi; Jana Gana Mana first sung
1913	Ghadar Party
1916	**Lucknow Pact**; **Home Rule Leagues** (Tilak, Besant)
1917	**Champaran** satyagraha

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Year	Event
1918	Kheda satyagraha; Ahmedabad mill strike
1919	**Rowlatt Act → Jallianwala Bagh (13 April)** → Amritsar Congress (Dec); Montford reforms
1920	**Khilafat** and **Non-Cooperation** begin; Nagpur Congress
1922	**Chauri Chaura** (5 Feb); **Bardoli resolution** ends NCM
1923	**Swaraj Party** (C.R. Das, Motilal Nehru)
1925	Kakori
1927	**Simon Commission** appointed (arrives 1928)
1928	**Nehru Report**; Bardoli satyagraha (Patel)
1929	**Lahore Congress**: **Purna Swaraj**; Deepavali Declaration
1930	**Dandi March** (12 March–6 April); Civil Disobedience; First Round Table
1931	**Gandhi–Irwin Pact**; Karachi Congress (Fundamental Rights); **Second Round Table**; Bhagat Singh hanged
1932	**Communal Award**; **Poona Pact**
1935	Government of India Act
1937	Provincial elections; Congress ministries
1939	**Tripuri Congress**; Bose forms **Forward Bloc**; war; Congress ministries resign
1940	**Lahore Resolution** (Pakistan); August Offer; Individual Satyagraha
1942	**Cripps Mission**; **Quit India**
1943	**Azad Hind Government**; Bengal famine
1945	**Wavell Plan**, **Shimla Conference**; INA trials
1946	RIN mutiny; **Cabinet Mission**; Direct Action Day; **Interim Government**
1947	**Mountbatten Plan (3 June)**; **Independence Act**; independence

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Chapter 2: World War II, INA & Independence (94 PYQs · 9.4% of Modern India)

PYQ 2021 · ×4 = UPPCS asked this in 2021; asked 4 times in all (different years) · years inside a fact (like 1784) are part of the fact

The one idea: eight years, one chain. **War (1939) → British offers (1940–42) → Quit India (1942) → INA (1943–45) → Cabinet Mission (1946) → Partition (1947)**. Learn the chain in order and attach the people to each link.

War-time offers and Individual Satyagraha

- Congress would help Britain only if **complete independence** was promised PYQ 1992, 1993
- The **Lahore Resolution (1940)** of the Muslim League, chaired by **Jinnah**, first clearly demanded a Muslim homeland PYQ 2000, 2013; the League marked **Pakistan Day on 23 March 1943** PYQ 2008
- **August Offer (8 Aug 1940)**: **Linlithgow**, promised dominion status.
- **Individual Satyagraha (1940)**: first satyagrahi **Vinoba Bhave** PYQ 1995, second **Jawaharlal Nehru** PYQ ×2
- **Cripps Mission (1942)** did **not** propose equal Hindu–Muslim seats in a new executive council PYQ 2005
- **C.R. formula** (1944): **Rajagopalachari** PYQ 2019

Likely ask: First and second individual satyagrahi.

Quit India (1942)

- **"Do or Die"** was the call of Quit India PYQ 1991 · ×2, launched in **Bombay** in **1942** PYQ 1990, 1993
- The resolution was moved by **Nehru**; Congress president then: **Maulana Azad** PYQ 1996, 2013
- Gandhi was arrested in **Bombay**.
- **Sardar Patel** backed the resolution.
- **Usha Mehta** ran the underground **Congress Radio** PYQ 1997 · ×2
- **Aruna Asaf Ali** organised underground work PYQ 2009, 2010, 2013, 2016
- **Jayaprakash Narayan** escaped from jail PYQ 2011
- **Shanti Ghosh** was not part of Quit India.
- **Parallel government in UP: Ballia** PYQ ×2
- **Jatiya Sarkar**: **Midnapur, 1942** PYQ 2005
- Women took part most in Quit India.
- **Louis Fischer**, an American journalist, was with Gandhi PYQ 2001 · ×2
- Commander-in-Chief at the time: **Wavell**.
- Parties like the Muslim League, Hindu Mahasabha and CPI did **not** support it.

Not asked yet: The resolution was passed at **Gowalia Tank, Bombay, on 8 August 1942** · Gandhi was held in the **Aga Khan Palace, Pune**, where **Kasturba** died

(1944) · The longest parallel government was at **Satara** (Nana Patil).

Likely ask: Parallel government ↔ district.

Complete list: parallel governments and underground leaders

Parallel government	Place	Leader
Ballia	Uttar Pradesh (Aug 1942)	**Chittu Pandey**
Jatiya Sarkar	**Tamluk, Midnapur** (Bengal), 1942–44	Satish Samanta
Prati Sarkar	**Satara** (Maharashtra), longest	Nana Patil

Underground leader	Role
Aruna Asaf Ali	Hoisted the flag at Gowalia Tank
Usha Mehta	Congress Radio
Jayaprakash Narayan	Escaped from Hazaribagh jail
Ram Manohar Lohia	Underground radio and pamphlets
Sucheta Kripalani	Underground women's network

Indian National Army

- The idea came from **Mohan Singh**, its first commander PYQ 1997, 2001, 2005 (with Japan's **Major Fujiwara**); INA formed in **1942**.
- **Ras Bihari Bose** helped set it up PYQ 2002
- **Subhas Bose** formed the **Provisional Government of Free India** at **Singapore on 21 October 1943** PYQ ×2
- Women's unit: **Rani Jhansi Regiment** PYQ ×2
- He first called Gandhi **"Father of the Nation"** PYQ ×2
- Slogan: **"Tum mujhe khoon do..."**.
- Tagore called him **"Desh Nayak"** PYQ 2009
- He gave the slogan **"Jai Hind"** PYQ 1990
- Born in **Cuttack**.
- **Red Fort trials** (1945): defended by **Tej Bahadur Sapru** and others PYQ 2013; **Sardar Patel** did not argue PYQ 2019 · ×3
- **Azad Hind Day: 12 November 1945**.
- **Rashid Ali** got seven years PYQ 2008
- **B.C. Dutta** and **Major Kartar Singh** were not INA.

Likely ask: Who first called Gandhi "Father of the Nation", or where the Azad Hind government was formed.

Complete list: INA

Fact	Detail
Idea and first INA	**Mohan Singh**, 1942, with Major Fujiwara
Indian Independence League	**Ras Bihari Bose**, Tokyo/Singapore
Bose takes command	July 1943, Singapore; "**Dilli Chalo**", "**Jai Hind**"
Azad Hind Government	**21 Oct 1943, Singapore**; recognised by Japan, Germany, Italy
Andaman & Nicobar	Bose hoisted the flag at **Port Blair** (30 Dec 1943); named them Shaheed and Swaraj
INA on Indian soil	**Moirang, Manipur** (April 1944)
Women's regiment	**Rani Jhansi Regiment**, led by **Capt. Lakshmi Sehgal**
Red Fort trial accused	**Shah Nawaz Khan, P.K. Sehgal, G.S. Dhillon**
Defence lawyers	**Bhulabhai Desai** (lead), T.B. Sapru, Nehru, Asaf Ali, K.N. Katju
Navy revolt	**RIN mutiny**, Bombay, February 1946 (HMIS Talwar)

Cabinet Mission, Interim Government, Partition

- **Cabinet Mission (1946)**: led by **Pethick-Lawrence** PYQ 2015; **Lord Amery** was not a member PYQ 1994 · ×2
- It set up the **Constituent Assembly**.
- Congress president then: **Maulana Azad**.
- The idea of a Constituent Assembly was first raised by the **Congress in 1936**.
- **Interim Government** under Nehru: **2 September 1946** (announced **24 August**) PYQ ×3
- **Railways: Asaf Ali** · **Finance: Liaquat Ali Khan** PYQ 2004
- Not members: **S.**
- **Radhakrishnan, B.R. Ambedkar**; **Azad** was not in the first list.

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- **Mountbatten Plan** became the basis of independence and partition PYQ 1994, 2013 · ×3
- **Khan Abdul Ghaffar Khan** voted against partition PYQ 2002; **Azad seconded** the resolution PYQ 2014
- **Indian Independence Bill** got Royal Assent on **18 July 1947** PYQ 2014
- **Sucheta Kripalani** sang at the Central Assembly at midnight on 14–15 August 1947 PYQ 2010
- Most princely states joined India in **1947** PYQ 1990, 1998
- **Labour Party** (Attlee) was in power in Britain.
- Congress president at independence: **J.B. Kripalani** PYQ ×2
- **Radcliffe** headed the Boundary Commission.
- Gandhi joined **no** Independence Day celebration.
- The **Governor-General** appointed the first PM.
- Nehru: "wipe every tear from every eye".
- Bhoodan began in **Andhra Pradesh** (Pochampally, now Telangana).

Likely ask: Order of plans and missions, or Interim Government portfolios.

Complete list: plans and missions, 1939–1947

Year	Event	Key point
Sept 1939	War declared for India by **Linlithgow**	Congress ministries resign (Oct–Nov 1939); League marks "Deliverance Day"
March 1940	**Lahore Resolution** of the Muslim League	Demand for Pakistan
Aug 1940	**August Offer**	Dominion status, bigger executive council
Oct 1940	**Individual Satyagraha**	Vinoba, then Nehru
March 1942	**Cripps Mission**	Dominion status after war; provinces may opt out; Gandhi: "post-dated cheque"
Aug 1942	**Quit India**	"Do or Die"
1943	Azad Hind Government	Singapore
1944	**C.R. formula**; Gandhi–Jinnah talks	
June 1945	**Wavell Plan, Shimla Conference**	Failed on the League's demand to name all Muslim members
Nov 1945	INA Red Fort trials	
Feb 1946	RIN mutiny	
March 1946	**Cabinet Mission**	**Pethick-Lawrence, Stafford Cripps, A.V. Alexander**; three groups of provinces, Constituent Assembly
16 Aug 1946	**Direct Action Day** (Muslim League)	Calcutta riots
2 Sept 1946	**Interim Government**	Nehru as Vice-President of the Council
9 Dec 1946	Constituent Assembly meets	
20 Feb 1947	**Attlee** announces British exit by June 1948	
3 June 1947	**Mountbatten Plan**	Partition; AICC accepts on 14–15 June
18 July 1947	**Indian Independence Act** gets Royal Assent	
15 Aug 1947	Independence	Radcliffe Award published on 17 August

Interim Government member	Portfolio
Jawaharlal Nehru	External Affairs, Commonwealth Relations; Vice-President of the Council
Sardar Patel	Home, Information & Broadcasting
Rajendra Prasad	Food and Agriculture
Baldev Singh	Defence
Asaf Ali	**Railways**
Jagjivan Ram	Labour

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Interim Government member	Portfolio
Liaquat Ali Khan (League)	**Finance** (presented the "poor man's budget")
Jogendra Nath Mandal (League)	Law

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Chapter 3: Sultanate + Mughal: Miscellaneous (83 PYQs · 15.4% of Medieval)

PYQ 2021 · ×4 = UPPCS asked this in 2021; asked 4 times in all (different years) · years inside a fact (like 1784) are part of the fact

The one idea: this chapter is a **glossary and a timeline**. UPPCS picks one **term** (iqta, dam, mal, chakla), one **department**, or asks you to put **battles in order**. Learn the words and the dates; the rest is easy.

Sultanate

- **Iqta**: land revenue given to officers for pay, started by **Iltutmish** PYQ 2010; its revenue did **not** go straight to the Sultan PYQ 2019
- **Tanka** (silver) was also Iltutmish's PYQ 2013
- **Sharb** = irrigation tax PYQ 1996
- **Masahat** = land measurement.
- **Ariz-i-Mumalik** = head of the army department.
- **Bandagan-i-khas** = royal slaves.
- **Dastar-bandan** = the ulema PYQ 2014
- Most nobles were **Turks** PYQ 1991
- The Turks brought **polo** PYQ 2001
- Amir Khusrau is linked to the **tabla** PYQ 2009
- **Firoz Tughlaq** wrote his memoirs, *Futuhat-i-Firozshahi* PYQ 2008
- **Alauddin** did not build any part of the Qutb Minar PYQ 2003
- Peasants did not grow **maize** (it came later from America).
- Wrong pairs asked:
  - ✗ **Diwan-i-Riyasat** was made by **Alauddin**, not Balban
  - ✗ **Diwan-i-Insha** = royal letters, not charity.
- Longest reign asked: **Bahlol Lodi** (38 years).
- **Firoz Tughlaq** gave the title "Dilawar Khan" to the founder of Malwa.

Likely ask: Department ↔ Sultan who created it.

Complete list: Sultanate departments

Department	Work	Created by
Diwan-i-Wizarat	Finance (head: Wazir)	—
Diwan-i-Arz	Military; headed by Ariz-i-Mumalik	**Balban**
Diwan-i-Insha	Royal letters and orders	—
Diwan-i-Risalat	Religious matters, appeals	—
Diwan-i-Mustakhraj	Collecting revenue arrears	**Alauddin Khilji**
Diwan-i-Riyasat	Market control	**Alauddin Khilji**
Diwan-i-Kohi	Agriculture	**Muhammad bin Tughlaq**
Diwan-i-Khairat	Charity	**Firoz Shah Tughlaq**
Diwan-i-Bandagan	Slaves	**Firoz Shah Tughlaq**
Diwan-i-Istihqaq	Pensions	**Firoz Shah Tughlaq**

Dynasty	Years	Founder
Slave (Mamluk)	1206–1290	Qutbuddin Aibak
Khilji	1290–1320	Jalaluddin Khilji
Tughlaq	1320–1414	Ghiyasuddin Tughlaq
Sayyid	1414–1451	Khizr Khan
Lodi	1451–1526	**Bahlol Lodi**

Mughal administration

- **Dam = copper coin** PYQ ×2
- **Mal = land revenue**, the state's main income PYQ ×3
- **Deh / mauza = village**.
- **Chakla** = a unit between subah and pargana.
- **Karori** = revenue officer.
- **Zawabit** = secular state laws PYQ 1997 · ×2
- **Mir Bakhshi** = head of the military PYQ 1992
- Mansabdari: the **sawar** rank could not be higher than the **zat** rank.
- Court language: **Persian**.
- Mughals were **Chagatai Turks**; **Nowruz** came from the Persians (Zoroastrians) PYQ 2001
- **Abul Fazl** took **seven years** to finish the *Akbarnama* PYQ 2014
- **Khidmati** = tax paid by defeated chiefs.
- **Maullim** = a ship (navigator).

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- Wrong pairs asked: **jarib** is a measuring chain, not a tax · **mauza** is a village, not a rebel zone.
- **King-makers: the Sayyid brothers, Hussain Ali and Abdullah**.
- **Chin Qilich Khan** (Nizam-ul-Mulk) founded Hyderabad.
- **Jai Singh II** built the Jantar Mantar PYQ 2005
- Bahadur Shah Zafar's father: **Akbar II** PYQ 2005

Likely ask: Which term ↔ meaning is NOT correctly matched.

Complete list: Mughal terms

Term	Meaning
Mansab	Rank; **zat** = personal rank, **sawar** = cavalry to keep
Jagir	Land assigned for salary
Khalisa	Land whose revenue went to the emperor's treasury
Mal	Land revenue
Zabt	System of measuring land and fixing cash revenue
Dahsala	Ten-year average revenue system (Todar Mal, Akbar)
Jarib	Measuring chain (bamboo with iron rings under Akbar)
Dam / Rupiya / Mohur	Copper / silver / gold coin
Subah → Sarkar → Pargana → Mauza	Province → district → group of villages → village
Karori / Amil	Revenue officers
Zamindar	Hereditary landholder collecting revenue
Zawabit	Secular laws made by the state

Officer	Duty
Wakil	Prime minister (early Akbar)
Diwan-i-Kul / Wazir	Finance and revenue
Mir Bakhshi	Army, mansabdars' pay
Mir Saman	Royal household and workshops
Sadr-us-Sudur	Religious grants, charity
Qazi-ul-Quzat	Chief judge
Muhtasib	Public morals
Kotwal	Town police

Battles, rulers and order

- Order asked: **Battle of Daurah** → **Kannauj** → **...** → **Samugarh**.
- **Hakim Khan Sur** led Maharana Pratap's army at Haldighati.
- **Jayata and Kumpa** of **Marwar** impressed Sher Shah.
- Wrong pair asked: **Jahangir** did not fight the Battle of **Balkh** (Shah Jahan's campaign) PYQ 2010
- **Aurangzeb**: crowned **twice** PYQ 2009; took **Bijapur (1686)** and **Golconda (1687**, ruler Abul Hasan) PYQ 1992, 2020; **re-imposed jizya** (1679) PYQ 2002; built the **Moti Masjid** in the Red Fort PYQ 2001
- The **Bibi ka Maqbara** (tomb of Rabia-ud-Daurani) is called the **second Taj Mahal** PYQ 2000
- **Treaty of Purandar (1665)**: Shivaji and **Jai Singh** PYQ 2011
- Marathas: capital **Raigarh** PYQ 1990; **Ashtapradhan** council PYQ 1991, 1995; **Tarabai** led them after Aurangzeb's death PYQ 2008, 2012; **chauth** = protection tax PYQ 2018
- **Prithviraj** = "the last sun of Indian glory" PYQ 2016
- **Shuja-ud-Daulah's tomb** → **Faizabad**.
- **Begum Samru** built a church at **Sardhana**.
- **Nazib Khan** (Rohilla) supported Ahmad Shah Abdali PYQ 1994

Likely ask: Arrange these battles in order.

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Complete list: battles timeline

Year	Battle	Who won
1191 / **1192**	First / Second Tarain	Prithviraj / **Muhammad Ghori**
1194	Chandawar	Ghori over Jaichand
1526	First Panipat	**Babur** over Ibrahim Lodi
1527	**Khanwa**	Babur over Rana Sanga
1528	Chanderi	Babur over Medini Rai
1529	Ghaghra	Babur over the Afghans
1539	**Chausa**	**Sher Shah** over Humayun
1540	**Kannauj (Bilgram)**	Sher Shah over Humayun
1556	Second Panipat	**Akbar** (Bairam Khan) over Hemu
1565	**Talikota**	Deccan Sultans over Vijayanagara
1576	**Haldighati**	Akbar's army (Man Singh) over Maharana Pratap
1658	Dharmat, **Samugarh**	Aurangzeb over Dara Shikoh
1739	Karnal	**Nadir Shah** over Muhammad Shah
1757	Plassey	British over Siraj-ud-Daulah
1761	Third Panipat	**Ahmad Shah Abdali** over the Marathas
1764	Buxar	British over Mir Qasim, Shuja-ud-Daulah, Shah Alam II

Mughal ruler	Reign
Babur	1526–1530
Humayun	1530–1540, 1555–1556
Akbar	1556–1605
Jahangir	1605–1627
Shah Jahan	1628–1658
Aurangzeb	1658–1707
Bahadur Shah I	1707–1712
Muhammad Shah ("Rangila")	1719–1748
Shah Alam II	1759–1806
Bahadur Shah Zafar (last)	1837–1857

Sikh gurus and foreign visitors

- Guru Nanak chose **Lehna** (Guru Angad) as successor.
- **Guru Angad** introduced **Gurmukhi**.
- **Guru Ramdas** founded **Amritsar** PYQ 1996
- **Guru Gobind Singh** founded the **Khalsa** (1699); his samadhi is at **Nanded**.
- Banda Bahadur's real name: **Lakshman Dev**.
- **Vasco da Gama** reached India in **1498**.
- The Portuguese built their first fort at **Cochin**.
- Genghis Khan's real name: **Temujin**.

Complete list: the ten Sikh gurus

Guru	Key fact
1. **Nanak**	Founder; born at Talwandi (Nankana Sahib)
2. **Angad**	**Gurmukhi** script
3. **Amar Das**	Manji system; Akbar visited him
4. **Ram Das**	Founded **Amritsar** (Ramdaspur)
5. **Arjan Dev**	Compiled the **Adi Granth**, built the Golden Temple; executed by **Jahangir**
6. **Hargobind**	Akal Takht; militarised the Sikhs
7. Har Rai	
8. Har Krishan	Youngest guru

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Guru	Key fact
9. **Tegh Bahadur**	Executed by **Aurangzeb** (1675)
10. **Gobind Singh**	**Khalsa** (1699); died at **Nanded**

Visitor	Came during	Note
Ralph Fitch	Akbar	First Englishman to travel India
William Hawkins	Jahangir (1608)	English captain
Sir Thomas Roe	Jahangir (1615)	Ambassador of James I
François Bernier	Shah Jahan, Aurangzeb	French physician
Jean-Baptiste Tavernier	Shah Jahan, Aurangzeb	French jeweller
Niccolao Manucci	Shah Jahan, Aurangzeb	Italian; served Dara Shikoh

Chapter 4: Revolutionary Movements: India & Abroad (75 PYQs · 7.5% of Modern India)

PYQ 2021 · ×4 = UPPCS asked this in 2021; asked 4 times in all (different years) · years inside a fact (like 1784) are part of the fact

The one idea: three waves. **Maharashtra and Bengal (1897–1912)**, then the **HRA–HSRA of UP and Punjab (1924–1931)**, and **revolutionaries abroad** (London, USA, Kabul, Tokyo). Every question is **who founded what, where, and which case**.

First wave: Maharashtra and Bengal

- **Abhinav Bharat** was founded by **V.D. Savarkar** in **1904** in **Maharashtra** PYQ 2000, 2015, 2018 · ×7; it grew out of the **Mitra Mela**.
- **Chapekar brothers**: Damodar Chapekar was hanged on **18 April 1898** (for killing the plague officer Rand).
- **Tilak** started the "lathi club"; Valentine Chirol called him the **"Father of Indian Unrest"** PYQ 2009, 2013 · ×3
- Tilak started the public **Ganpati festival** PYQ 1996, 2005; he was not a moderate PYQ 1995
- **Anushilan Samiti** was founded by **P.**
- **Mitra** PYQ 2008; **Barindra Ghosh** was linked to it.
- **C.R. Das** defended **Aurobindo** in the **Alipore bomb case**.
- Wrong pairs asked:
  - ✗ the **Nasik conspiracy** was **not** Ras Bihari Bose's (it was Savarkar's group)
  - ✗ the Prevention of Seditious Meetings Act was **1907**, not 1908.

Likely ask: Organisation ↔ founder.

Second wave: HRA and HSRA

- **Kakori train action, 1925** PYQ ×7: **Ram Prasad Bismil** was hanged in **Gorakhpur jail**; **Ashfaqullah Khan** was the first Muslim hanged for freedom; **Chandra Shekhar Azad** alone escaped PYQ 2011
- **Govind Ballabh Pant** led the defence committee PYQ 2014; **Jagat Narayan Mulla** was the government lawyer.
- **Surya Sen** was not part of it.
- **Hindustan Republican Association**: **Kanpur, 1924**, to organise armed revolt.
- Renamed **Hindustan Socialist Republican Association** in **Delhi, 1928** PYQ 2008, under **Chandra Shekhar Azad** and Bhagat Singh PYQ ×3
- Azad died **fighting in an encounter** PYQ 1994
- Wrong pair asked: Kakori was **1925**, not 1924 PYQ 2015
- **Bhagat Singh** threw the bomb in the Central Assembly with **Batukeshwar Dutt** PYQ 2003; he made **"Inquilab Zindabad"** famous PYQ ×3
- **Jatin Das** died on hunger strike (Lahore conspiracy) PYQ 1994 · ×2
- **The Philosophy of the Bomb**: **Bhagwati Charan Vohra**.
- **Bina Das** shot at the Bengal Governor at her convocation.
- **Madan Lal Dhingra and Udham Singh** were hanged for killing officers in England.
- Lal-Bal-Pal: only **Lala Lajpat Rai** became Congress president; his guru was **Mazzini**.
- **Sardar Ajit Singh** → **Bharat Mata Society**.

> **Not asked yet: Saunders** was shot in Lahore (Dec 1928) to avenge Lala Lajpat Rai's death · **Bhagat Singh, Sukhdev and Rajguru** were hanged on **23 March 1931** · Azad died at **Alfred Park, Prayagraj** (27 Feb 1931).

Likely ask: Kakori case facts, or HRA → HSRA.

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Complete list: revolutionary organisations

Organisation	Year	Place	Founder / leader
Mitra Mela	1899	Nasik	Savarkar brothers
Anushilan Samiti	1902	Calcutta (Dhaka branch: Pulin Das)	**P. Mitra**, Barindra Ghosh
Abhinav Bharat	**1904**	Maharashtra (Nasik)	**V.D. Savarkar**
Jugantar	1906	Calcutta	Barindra Ghosh, Bhupendranath Dutta
Bharat Mata Society	1907	Punjab	**Ajit Singh**
Hindustan Republican Association	**1924**	**Kanpur**	Sachindra Nath Sanyal, Ram Prasad Bismil
Naujawan Bharat Sabha	1926	Lahore	Bhagat Singh
Hindustan Socialist Republican Association	**1928**	**Delhi** (Feroz Shah Kotla)	Chandra Shekhar Azad, Bhagat Singh, Sukhdev
Indian Republican Army	1930	Chittagong	**Surya Sen**

Complete list: cases and actions

Year	Case / action	People
1897	Rand and Ayerst shot, Poona	**Chapekar brothers**
1908	Muzaffarpur bomb (target: Kingsford)	**Khudiram Bose**, Prafulla Chaki
1908	**Alipore bomb case**	Aurobindo, Barindra Ghosh; defended by **C.R. Das**
1909	Curzon Wyllie shot, London	**Madan Lal Dhingra**
1909	**Nasik conspiracy** (Jackson shot)	Anant Kanhere; Savarkar's group
1912	**Delhi conspiracy** (bomb on Lord Hardinge)	**Ras Bihari Bose**, Basant Biswas, Amir Chand
1924	**Kanpur Bolshevik case**	S.A. Dange, Muzaffar Ahmad, Shaukat Usmani
1925	**Kakori train action**	Bismil, Ashfaqullah, Rajendra Lahiri, Roshan Singh (hanged); Azad escaped
1928	Saunders shot, Lahore	Bhagat Singh, Rajguru, Azad
1929	**Central Assembly bomb** (8 April)	**Bhagat Singh, B.K. Dutt**
1929	Lahore conspiracy	Jatin Das died after a 63-day fast
1930	**Chittagong armoury raid**	**Surya Sen**, Kalpana Dutt, Pritilata Waddedar
1931	Hanging of Bhagat Singh, Sukhdev, Rajguru (23 March)	
1932	Shot at Governor Stanley Jackson	**Bina Das**
1940	Michael O'Dwyer shot, London	**Udham Singh**

Kakori martyr	Hanged at
Ram Prasad Bismil	**Gorakhpur**
Ashfaqullah Khan	Faizabad
Rajendra Lahiri	Gonda
Roshan Singh	Naini (Prayagraj)

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Abroad

- **Ghadar Party**: **USA** PYQ 2008, headquarters **San Francisco**, leader **Lala Hardayal** PYQ ×3; founding president **Sohan Singh Bhakna** PYQ 2004; weekly paper *Ghadar*, first in **Urdu** PYQ 2000, later in **4** languages.
- **Komagata Maru** (1914): a ship carrying Indians to **Canada**, led by **Baba Gurdit Singh**.
- **India House** and the **Indian Home Rule Society** (1905, **London**): **Shyamji Krishna Varma** PYQ ×3
- **Raja Mahendra Pratap** set up a Provisional Government of India in **Afghanistan (Kabul)** during World War I PYQ 2008, 2012 · ×2
- **Ras Bihari Bose** founded the **Indian Independence League** PYQ 2008
- **Bhikaji Cama** = "Mother of the Indian Revolution" PYQ 2003
- **Saumyendranath Tagore** founded the **Revolutionary Communist Party** PYQ 2015
- Order asked: **Ghadar Party (1913) → … → Chittagong raid (1930)**.

Likely ask: Which organisation was founded abroad, and where.

Complete list: revolutionaries abroad

Person / body	Place	Fact
Shyamji Krishna Varma	London	India House, Indian Home Rule Society (1905), paper *The Indian Sociologist*
Madam Bhikaji Cama	Stuttgart	Raised an Indian flag at the 1907 Socialist Congress
V.D. Savarkar	London	India House; *The Indian War of Independence, 1857*
Lala Hardayal, Sohan Singh Bhakna	San Francisco	**Ghadar Party (1913)**
Baba Gurdit Singh	Vancouver	**Komagata Maru** (1914)
Raja Mahendra Pratap (President), **Barkatullah** (PM)	**Kabul**	Provisional Government of India (1915)
Virendranath Chattopadhyay	Berlin	Berlin Committee (1915)
Ras Bihari Bose	Tokyo	Indian Independence League (1942), handed over to Subhas Bose
M.N. Roy	Tashkent	Communist Party of India abroad (1920)

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Section B: Geography

6 chapters

Chapter 5: Agriculture & Animal Husbandry (104 PYQs · 11.4% of Geography)

PYQ 2021 · ×4 = UPPCS asked this in 2021; asked 4 times in all (different years) · years inside a fact (like 1784) are part of the fact

The one idea: almost every question is **crop → top state**, **crop → season**, or **revolution → product**. UP's own crops (wheat, sugarcane, potato, milk) come back every year.

Food crops

- **Uttar Pradesh** leads in **wheat** PYQ ×3, **sugarcane** PYQ 2015, 2019 · ×4, **potato**, **food grains** PYQ 2008 and **milk** PYQ 2014 · ×2
- Wheat: UP is the top producer PYQ 1993, 2002; order asked: **UP, Punjab, Haryana** PYQ 2006
- Rice: leading producer **West Bengal**; highest yield per hectare **Punjab**.
- Rice is a **transplanted** crop.
- **Jaya, Padma, Krishna** = paddy varieties.
- **Pulses: Madhya Pradesh**.
- **Maize** can be grown all year; **Shaktiman I and II** are maize varieties PYQ 1990, 2007
- Maize grows all year PYQ 2007
- Wheat disease: **rust**.
- Sugar industry does better in the **south** because yield and juice per hectare are higher there.
- **Frost** at ripening lowers sucrose in cane PYQ 1996, 1999
- **Green Revolution** helped **wheat** most PYQ 1990, 1994, 2001, 2015; **Norman Borlaug** was from the **USA** PYQ 2018
- India does not usually export **pulses** PYQ 2013

Likely ask: Which crop does UP lead in.

Cash crops, oilseeds and plantations

- **Coffee → Karnataka** PYQ ×2; first British plantation in **Chikmagalur**.
- **Tea → Assam** PYQ 1994
- **Rubber → Keralam**.
- **Cardamom and pepper → Keralam** PYQ 2018 · ×3, the "garden of spices" PYQ 2011; Idukki grows cardamom.
- **Saffron → Kashmir**.
- **Cotton → Maharashtra** ("white gold") PYQ ×2
- **Jute → West Bengal** PYQ 2007
- Fibre crops: **cotton, jute, sunn hemp**.
- **Soybean → Madhya Pradesh** PYQ 2003, 2015 · ×3
- **Oilseeds → Madhya Pradesh** in the answer keys PYQ ×2
- **Sesame** gives the most oil.
- **Mentha oil: UP gives about 90%**.
- **Cashew → Maharashtra**.
- **Tobacco: Andhra Pradesh and Gujarat**; Orobanche weed grows in tobacco fields.
- Plantation crops: **tea, coffee, rubber, coconut**.

> **Not asked yet:** **Rajasthan** has overtaken MP in total oilseeds and leads in **mustard** · **Gujarat** leads in **groundnut**.

Likely ask: Match crop ↔ leading state.

Complete list: crops and leading states (recent years)

Crop	Leading states
Rice	West Bengal, Uttar Pradesh, Punjab
Wheat	**Uttar Pradesh**, Madhya Pradesh, Punjab
Sugarcane	**Uttar Pradesh**, Maharashtra, Karnataka
Potato	**Uttar Pradesh**, West Bengal
Pulses	Madhya Pradesh, Maharashtra, Rajasthan
Total oilseeds	Rajasthan, Madhya Pradesh, Gujarat
Soybean	Madhya Pradesh, Maharashtra
Groundnut	Gujarat
Mustard	Rajasthan

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Crop	Leading states
Cotton	Gujarat, Maharashtra
Jute	West Bengal
Tea	Assam, West Bengal
Coffee	Karnataka (about 70%), Keralam
Rubber	Keralam
Coconut	Keralam, Karnataka, Tamil Nadu
Cardamom	Keralam
Black pepper	Karnataka, Keralam
Cashew	Maharashtra
Saffron	Jammu & Kashmir
Mango	Uttar Pradesh
Tobacco	Gujarat, Andhra Pradesh
Silk	Karnataka

These rankings shift a little year to year; UPPCS answer keys sometimes keep the older leader.

Complete list: crop seasons

Season	Sown – harvested	Crops
Kharif	June–July (monsoon) – Sept–Oct	Rice, maize, jowar, bajra, cotton, groundnut, soybean, jute, arhar, sugarcane
Rabi	Oct–Nov – March–April	**Wheat, barley, gram, mustard**, peas, linseed
Zaid	March – June	Watermelon, muskmelon, cucumber, moong, fodder

Mustard is **rabi**, not kharif PYQ 2012. **Moong and watermelon** are zaid crops of irrigated land PYQ 2011

Revolutions

- **Yellow = oilseeds** PYQ ×3
- **White = milk** PYQ 2015
- Wrong pairs asked: yellow is **not** fertiliser; brown is **not** electricity.
- HYV seeds need **more fertiliser and more water**.

Likely ask: Which revolution ↔ product is NOT correctly matched.

Complete list: agricultural revolutions

Revolution	Product	Linked name
Green	Food grains (wheat, rice)	M.S. Swaminathan, Norman Borlaug
White (Operation Flood)	Milk	Verghese Kurien
Yellow	Oilseeds	Sam Pitroda
Blue	Fish	Hiralal Chaudhuri
Pink	Onion, prawns, meat	
Silver	Eggs, poultry	Indira Gandhi
Golden	Horticulture, honey	Nirpakh Tutej
Grey	Fertilisers	
Brown	Leather, cocoa	
Red	Tomato, meat	
Round	Potato	
Black	Petroleum	
Golden fibre	Jute	
Silver fibre	Cotton	

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Silk, soil and farming types

- **Karnataka** leads in mulberry silk and silk yarn PYQ ×3
- **Mulberry** is the most produced silk.
- **Eri** → **Assam / Meghalaya**.
- Spider silk = **gossamer**.
- **National Horticulture Board**: **1984**, Gurgaon PYQ 2016
- **Sultana, Gulabi, Kali Champa** are **grape** varieties PYQ 2018
- China grows the most vegetables PYQ 2008
- **Mar soil** → **Jhansi** (Bundelkhand).
- **Clay** particles are under 0.002 mm.
- **Jhoom** = shifting cultivation (north-east; **Nagaland**, yr 2005).
- **Viticulture** = grapes.
- Stock farming = breeding animals.
- Average holding (2015–16 census): **1.08 hectares**.
- Net sown area about **14 crore hectares**.

Complete list: silk types

Silk	Insect feeds on	Main state
Mulberry (about 70%)	Mulberry leaves	Karnataka, Andhra Pradesh
Tasar	Arjun, sal	Jharkhand
Eri	Castor	Assam, Meghalaya
Muga (golden, only in India)	Som, soalu	Assam

Animal husbandry

- **Milk** → **Uttar Pradesh**; India is **first** in the world in milk PYQ 2008
- About a third of India's cattle are in **MP, West Bengal and UP** PYQ 2009
- **Raw wool** → **Rajasthan**.
- Fish order asked: **Andhra Pradesh, Gujarat, Keralam, Tamil Nadu**.
- Wrong breed pairs asked: **Gir is a cow**, not sheep · **Pashmina is a goat**, not sheep.

Likely ask: Animal ↔ breed.

Complete list: breeds

Animal	Breeds
Cow	Gir, Sahiwal, Red Sindhi, Tharparkar, Hariana, Kankrej, Ongole, Deoni, Mewati, Rathi
Buffalo	Murrah, Nili-Ravi, Bhadawari (UP), Jaffarabadi, Mehsana, Surti
Goat	Jamunapari (UP), Barbari (UP), Beetal, Sirohi, Black Bengal, Pashmina (Changthangi)
Sheep	Bikaneri, Marwari, Nali, Gaddi, Deccani

Product	Top state
Milk	Uttar Pradesh, Rajasthan
Eggs	Andhra Pradesh
Fish	Andhra Pradesh
Wool	Rajasthan
Honey	Uttar Pradesh

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Chapter 6: Mineral Resources (100 PYQs · 11.0% of Geography)

PYQ 2021 · ×4 = UPPCS asked this in 2021; asked 4 times in all (different years) · years inside a fact (like 1784) are part of the fact

The one idea: three rock families hold India's minerals. **Dharwar** rocks hold the **metals** (iron, gold, manganese), **Gondwana** rocks hold the **coal**, and **Tertiary** rocks hold **lignite and oil**. Then learn **mine → state**.

Iron ore

- Iron ore lies in **Dharwar** rocks PYQ 1994 · ×2; Dharwar is the most mineral-rich system PYQ 1995, 2005
- **Odisha** is the largest producer.
- **Bailadila** (Chhattisgarh) is the largest mechanised mine PYQ 2015; wrong pair asked: Bailadila is **not** in Madhya Pradesh PYQ ×2
- **Keonjhar** supplies Rourkela.
- Chota Nagpur grew on iron ore.
- **Bhadravati** steel plant is the farthest from coalfields.

Likely ask: Iron-ore mine ↔ state.

Coal and lignite

- **Gondwana** rocks give most coal PYQ 2008, 2017 · ×3
- **Jharia** (Jharkhand) has the largest and thickest reserves PYQ ×3
- **Jharkhand** has the largest reserves PYQ ×2
- Production order asked: **Odisha, Chhattisgarh, Jharkhand**.
- Most coal goes to **power plants**; coal is India's main commercial energy.
- **Lignite: Tamil Nadu (Neyveli)** PYQ ×2
- **Namchik-Namphuk → Arunachal Pradesh** PYQ 2008
- **Bishrampur → Chhattisgarh** (not MP) PYQ 2008
- **Talcher → Odisha** PYQ 1998
- Cuddapah rocks have **no coal**.

Likely ask: Coalfield ↔ state.

Complete list: coalfields

State	Coalfields
Jharkhand	Jharia, Bokaro, Giridih, Karanpura, Rajmahal, Daltonganj
West Bengal	Raniganj (the oldest, 1774)
Odisha	Talcher, Ib Valley
Chhattisgarh	Korba, Bishrampur, Jhilmili, Hasdeo-Arand, Mand-Raigarh
Madhya Pradesh / UP	**Singrauli** (on the MP–UP border), Sohagpur, Pench-Kanhan
Maharashtra	Kamptee, Wardha
Telangana	Singareni (Godavari valley)
North-east	Makum (Assam), Namchik-Namphuk (Arunachal)
Lignite	Neyveli (Tamil Nadu), Palana and Barsingsar (Rajasthan), Gujarat

Rock system	Minerals
Dharwar	Iron ore, manganese, gold, copper
Cuddapah	Limestone, marble, asbestos (no coal)
Vindhyan	Limestone, sandstone, diamonds (Panna)
Gondwana	**About 98% of India's coal**
Tertiary	Lignite, petroleum, north-east coal

Other metals and minerals

- **Copper reserves → Rajasthan**.
- **Zinc: Rajasthan has almost a monopoly** (Zawar, Udaipur) PYQ ×2
- **Mica: Andhra Pradesh** (also asked as Rajasthan); old mica belt in **Hazaribagh, Gaya, Munger**.
- UP has **no mica**.
- **Bauxite: Odisha and Gujarat**.
- **Manganese**: keys say **Maharashtra** PYQ ×2 and **Madhya Pradesh** PYQ 2012
- **Bauxite** is the ore of **aluminium** PYQ 1997
- **Chromite: Odisha** (almost all).
- **Tin: Chhattisgarh only** PYQ 2015 · ×3
- **Uranium: Jadugoda**.
- **Monazite (thorium) → Keralam beaches**; India is self-sufficient in **thorium** and **graphite**.
- **Diamonds → Madhya Pradesh (Panna)**.
- **Best marble → Makrana** PYQ 1992; marble is a **metamorphic** rock PYQ 1991
- Granite slabs and slates: **Lalitpur** (UP) PYQ 2002
- **Gypsum and asbestos → Rajasthan**.
- **Chunar** is known for cement.

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- Order asked: gold–copper–iron–coal = **Kolar–Khetri–Kudremukh–Jharia**.
- Wrong pairs asked: Kamptee is **coal** (not copper) · Nellore is **mica** (not manganese).
- India imports **lithium, nickel, cobalt**.

Not asked yet: Lithium reserves were found at **Reasi, Jammu & Kashmir** (2023) · **Hutti** (Karnataka) is the working gold mine; Kolar closed in 2001.

Likely ask: Mineral ↔ leading state or mining centre.

Complete list: minerals, states and mines

Mineral	Leading state	Main mines / centres
Iron ore	Odisha, Chhattisgarh, Karnataka, Jharkhand	Keonjhar, Mayurbhanj, Badampahar (Odisha) · Bailadila, Dalli-Rajhara (CG) · Kudremukh, Ballari (Karnataka) · Noamundi, Singhbhum (Jharkhand) · Goa
Coal	Odisha, Chhattisgarh, Jharkhand	See coalfield table
Manganese	Madhya Pradesh, Maharashtra, Odisha	Balaghat (MP), Nagpur–Bhandara (Maharashtra)
Bauxite	Odisha, Gujarat, Jharkhand	Kalahandi, Koraput (Odisha) · Lohardaga (Jharkhand) · Amarkantak (MP)
Copper	Rajasthan (reserves), Madhya Pradesh	**Khetri** (Rajasthan) · **Malanjkhand** (MP) · Singhbhum, Rakha, Ghatshila (Jharkhand)
Gold	Karnataka	**Hutti**, Kolar (closed) · Ramagiri (AP)
Zinc and lead	Rajasthan	**Zawar**, Rampura Agucha
Mica	Andhra Pradesh, Rajasthan, Jharkhand	Nellore (AP) · Koderma, Hazaribagh (Jharkhand)
Chromite	Odisha	Sukinda valley
Uranium	Jharkhand, Andhra Pradesh	**Jadugoda** · Tummalapalle
Thorium (monazite)	Keralam, Tamil Nadu, Odisha	Beach sands
Tin	Chhattisgarh	Dantewada
Diamond	Madhya Pradesh	**Panna**
Marble	Rajasthan	**Makrana** (used in the Taj Mahal)
Gypsum, asbestos, limestone	Rajasthan	Bikaner, Jodhpur
Lithium	Jammu & Kashmir	Reasi

Complete list: metal plants

Plant	State	Built with
TISCO, Jamshedpur (1907)	Jharkhand	Private (Tata)
Bhilai	Chhattisgarh	USSR
Rourkela	Odisha	West Germany
Durgapur	West Bengal	UK
Bokaro	Jharkhand	USSR
Bhadravati (Visvesvaraya)	Karnataka	
Visakhapatnam	Andhra Pradesh	Coastal plant
Salem	Tamil Nadu	Stainless steel
NALCO (aluminium)	Odisha (Angul, Damanjodi)	
HINDALCO (aluminium)	**Uttar Pradesh (Renukoot)**	
BALCO (aluminium)	Chhattisgarh (Korba)	
MALCO (aluminium)	Tamil Nadu (Mettur)	

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Chapter 7: Drainage System (82 PYQs · 9.0% of Geography)

PYQ 2021 · ×4 = UPPCS asked this in 2021; asked 4 times in all (different years) · years inside a fact (like 1784) are part of the fact

The one idea: India has two river families. **Himalayan rivers** are old, perennial and cut through the mountains. **Peninsular rivers** are older, rain-fed, and mostly flow **east into the Bay of Bengal**; only Narmada and Tapi flow west through rift valleys. Learn each river as **source → tributaries → mouth → cities**.

Himalayan rivers

- **Sutlej** rises in Tibet, is trans-Himalayan, and cuts all three Himalayan ranges PYQ ×4
- **Indus and Brahmaputra** rise near the same point (Mansarovar) PYQ 2006
- The Brahmaputra basin lies in **Tibet, India and Bangladesh** PYQ 1990
- The **Sutlej** does not rise in India PYQ 2013
- The Indus flows between the **Ladakh and Zaskar** ranges; **Leh** is on its right bank.
- **Kishanganga → Jhelum**.
- Jhelum does not touch UP.
- **Doodh Ganga** is in Jammu & Kashmir.
- Brahmaputra and Ganga are **antecedent** rivers (older than the mountains they cut).
- **Devprayag**: Alaknanda + Bhagirathi.
- **Vishnuprayag**: Dhauliganga + Alaknanda.
- **Badrinath** is on the Alaknanda.
- Govindghat is **not** on the Mandakini.
- Ganga enters UP in **Bijnor**.
- **Ramganga** joins the Ganga near **Kannauj**.
- **Gomti** is the only Ganga tributary that rises in the plains.
- **Gorakhpur → Rapti**.
- **Kosi** keeps changing course.
- **Hooghly** is tidal.
- **Betwa → Yamuna** PYQ ×2
- The Yamuna is almost a **dead river between Delhi and Agra** for most of the year PYQ 2015
- The **Jonk** is not in the Ganga basin (it joins the Mahanadi) PYQ 2021
- **Mahatma Gandhi Setu** crosses the Ganga at Patna, **Bihar** PYQ 1993
- **Son** rises at **Amarkantak**.
- **Chambal** is a **superimposed** river.
- Teesta is now a Brahmaputra tributary, not the Ganga's.
- **Sankosh** forms the **Assam–West Bengal** boundary.

Likely ask: Which river cuts all three Himalayan ranges, or confluence ↔ prayag.

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Complete list: Indus system

River	Source	Note
Indus	Near Mansarovar, Tibet	Enters India in Ladakh; Leh on its bank; tributaries Shyok, Zaskar, Gilgit
Jhelum	**Verinag** spring, Kashmir	Srinagar, Wular lake; Kishanganga joins it
Chenab	Chandra + Bhaga at **Tandi** (Bara Lacha La)	Largest Indus tributary in India
Ravi	Rohtang area, Kullu	
Beas	**Beas Kund**, near Rohtang	Only one of the five flowing wholly in India; joins Sutlej at Harike
Sutlej	**Rakas Tal**, Tibet	Enters at **Shipki La**; Bhakra Nangal dam

Indus Waters Treaty (1960): India uses the eastern rivers (**Ravi, Beas, Sutlej**); Pakistan gets the western rivers (**Indus, Jhelum, Chenab**).

Complete list: Ganga system

Panch Prayag (going down the Alaknanda)	Rivers meeting
Vishnuprayag	Dhauliganga + Alaknanda
Nandprayag	Nandakini + Alaknanda
Karnaprayag	Pindar + Alaknanda
Rudraprayag	Mandakini + Alaknanda
Devprayag	**Bhagirathi + Alaknanda → Ganga**

Bank	Tributaries of the Ganga
Left (from the Himalaya)	Ramganga, Gomti, **Ghaghara** (Saryu at Ayodhya), Gandak, Burhi Gandak, **Kosi** ("sorrow of Bihar"), Mahananda
Right (from the plateau)	**Yamuna**, Tons, **Son**, Punpun

River	Tributaries	Joins
Yamuna (Yamunotri)	**Chambal, Sind, Betwa, Ken** (right) · Hindon, Tons (from the north)	Ganga at **Prayagraj**
Chambal (Janapav, Mhow)	Banas, Kali Sindh, Parbati	Yamuna, near Etawah
Son (Amarkantak)	Rihand, North Koel	Ganga near Patna
Damodar	Barakar	**Hooghly**; "sorrow of Bengal", "biological desert"

Complete list: Brahmaputra system

- Rises at the **Chemayungdung glacier** near Mansarovar as **Tsangpo**; enters India in Arunachal as **Siang/Dihang**; joined by **Dibang** and **Lohit**; called **Jamuna** in Bangladesh; meets the Padma, then the **Meghna**.
- Tributaries: **Subansiri** (largest), Manas, Sankosh, **Teesta**, Dhansiri, Lohit, Dibang.
- **Majuli** is a river island in it.
- Cities: Dibrugarh, Guwahati.

Peninsular rivers

- **Godavari** is the longest peninsular river with the largest catchment PYQ 2009 · ×2
- **Krishna** tributaries: **Tungabhadra, Bhima** PYQ ×2; **Tel** is not a Krishna tributary (it joins the **Mahanadi**).
- **Hagari → Tungabhadra**.
- **Narmada** rises at **Amarkantak** PYQ 2010, 2012; the key also gave Amarkantak for the Son and Mahanadi PYQ 2014
- **Narmada and Tapi** flow west into the **Arabian Sea** PYQ 1992 through **rift valleys** PYQ ×4; the **Tapi** forms an **estuary** PYQ 2006; the **Satpura** range lies between them.
- West-flowing rivers make **estuaries, not deltas** PYQ 1999, 2014
- **Mahi** crosses the **Tropic of Cancer twice**.
- **Kaveri = "Ganga of the South"** PYQ 2015; it rises in Karnataka, not Andhra.
- **Mahanadi** forms its delta in **Odisha**.
- **Coringa** mangroves are in the **Godavari** delta.
- Tapi and Mahanadi do **not** rise in the Western Ghats PYQ 2018
- **Damodar** joins the **Hooghly** PYQ 2008, flows in a **fault (rift) valley** PYQ 2019, and the **Eden canal** is taken from it PYQ 2015
- Wrong pairs asked: **Pranhita joins the Godavari** (not Mahanadi); **Hyderabad is on the Musi** (not Krishna) PYQ 1996; **Bhubaneswar** is not on the Mahanadi PYQ 1999; **Bhopal** is not on a river.
- **Nashik → Godavari** (Kumbh) PYQ ×2
- South Indian rivers are mostly **dendritic**; Deccan rivers flow **west to east**.

Likely ask: River ↔ tributary, or city ↔ river.

Complete list: peninsular rivers

River	Source	Main tributaries	Mouth
Godavari (1,465 km, "Dakshin Ganga")	**Trimbakeshwar**, Nashik	Pranhita (Wardha + Wainganga), Indravati, Manjra, Purna, Sabari	Bay of Bengal (Andhra)
Krishna	**Mahabaleshwar**	**Bhima, Tungabhadra**, Koyna, Ghataprabha, Malaprabha, Musi	Bay of Bengal (Andhra)
Kaveri	**Talakaveri**, Kodagu (Karnataka)	Hemavati, Kabini, Bhavani, Amaravati	Bay of Bengal (Tamil Nadu)
Mahanadi	**Sihawa**, Dhamtari (Chhattisgarh)	Seonath, Hasdeo, Ib, **Tel**	Bay of Bengal (Odisha)
Narmada	**Amarkantak** (MP)	Tawa, Hiran	**Arabian Sea**, estuary at Bharuch
Tapi	**Multai**, Betul (MP)	Purna, Girna	**Arabian Sea**, Surat
Mahi	Vindhyas (MP)	—	Gulf of Khambhat; crosses Tropic of Cancer twice
Sabarmati	Aravalli (Rajasthan)	—	Gulf of Khambhat; Ahmedabad
Luni	Aravalli near Ajmer	—	Ends in the Rann of Kutch; salty water
Subarnarekha	Ranchi plateau	—	Bay of Bengal
Periyar	Western Ghats	—	Longest river of Keralam
Sharavati	Western Ghats	—	**Jog Falls**

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Drainage pattern	Example
Antecedent (older than the mountain)	Indus, Sutlej, Brahmaputra
Superimposed	Chambal, Damodar, Subarnarekha
Dendritic (tree-like)	Most plains and peninsular rivers
Radial (from a central peak)	Rivers from **Amarkantak**
Trellis	Singhbhum (Jharkhand)
Centripetal (into a basin)	Loktak (Manipur)

Complete list: cities on rivers

River	Cities
Ganga	Haridwar, Kanpur, Prayagraj, Varanasi, Patna, Bhagalpur
Yamuna	Delhi, Mathura, Agra, Etawah
Gomti	**Lucknow**, Jaunpur, Sultanpur
Saryu / Ghaghara	**Ayodhya**
Rapti	**Gorakhpur**
Hooghly	Kolkata
Jhelum	Srinagar
Indus	Leh
Sutlej	Ludhiana, Ropar
Chambal	**Kota**
Narmada	**Jabalpur**, Omkareshwar, Bharuch
Tapi	**Surat**
Sabarmati	Ahmedabad, Gandhinagar
Godavari	**Nashik**, Nanded, Rajahmundry
Krishna	Vijayawada, Sangli
Musi	**Hyderabad**
Kaveri	Tiruchirappalli, Srirangapatna
Mahanadi	**Cuttack**, Sambalpur
Brahmaputra	Guwahati, Dibrugarh

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Chapter 8: Countries, Capitals & Boundaries (77 PYQs · 11.1% of World Geography)

PYQ 2021 · ×4 = UPPCS asked this in 2021; asked 4 times in all (different years) · years inside a fact (like 1784) are part of the fact

The one idea: UPPCS asks the **odd one out**: the capital that does not match, the country not on a sea, the state that is not landlocked. Learn countries **in groups by region**, not one by one.

Continents

- Area order: **Asia, Africa, North America, (South America, Antarctica,) Europe, Australia**.
- Smallest: **Australia**, then Europe PYQ 2008 · ×3
- **Africa** has the most countries.
- **Europe** has the highest share of plains.
- **North America** has no landlocked country.
- **Algeria** is Africa's largest country.
- **Guyana** is in South America, not Africa.
- **Botswana** is not on Africa's west coast.

Likely ask: Order of continents by area.

Complete list: continents

Continent	Area rank	Countries (about)	Largest country
Asia	1	48	Russia (part) / China
Africa	2	**54** (most)	Algeria
North America	3	23	Canada
South America	4	12	Brazil
Antarctica	5	0	—
Europe	6	44	Russia (part) / Ukraine
Australia / Oceania	7	14	Australia

Countries and groups

- **Benelux = Belgium, Netherlands, Luxembourg**.
- **Finland** is not Scandinavian.
- **Horn of Africa** = Somalia, Ethiopia, Djibouti, Eritrea; it does not include **Sudan** PYQ 1999
- **Sahel** does not include **Tunisia**.
- **Laos** is the only landlocked country of South-east Asia PYQ 2009
- Not landlocked (asked): **Liberia**, **Azerbaijan**.
- **Greenland** is part of Europe politically (Denmark) PYQ 2002
- **Canada** has the longest coastline PYQ 2015
- **Indonesia**: largest Muslim population, over 15,000 islands; it has no land border with **Brunei**.
- **Singapore** is the most urbanised country; **Pakistan** the most urbanised in South Asia.
- **Mongolia** has the lowest density.
- Area order asked: **Argentina < India < Australia < Brazil** PYQ 2012
- France is smaller than India.
- **Aberdeen** = oil capital of Europe.
- Nobi and Kanto plains → **Japan**.

Likely ask: Which group or region does NOT include a country.

Complete list: country groups

Group	Countries
Benelux	Belgium, Netherlands, Luxembourg
Scandinavia	Norway, Sweden, Denmark (Finland and Iceland are **Nordic**, not Scandinavian)
Baltic states	Estonia, Latvia, Lithuania
Horn of Africa	Somalia, Ethiopia, Eritrea, Djibouti
Maghreb	Morocco, Algeria, Tunisia, Libya, Mauritania
Sahel	Senegal, Mauritania, Mali, Burkina Faso, Niger, Chad, Sudan, Eritrea
Iberia	Spain, Portugal
Central Asia	Kazakhstan, Uzbekistan, Turkmenistan, Kyrgyzstan, Tajikistan
Landlocked in South America	Bolivia, Paraguay
Doubly landlocked	Liechtenstein, Uzbekistan
Largest landlocked	Kazakhstan

Capitals

- Wrong pairs asked:
  - ✗ **Finland → Helsinki** (Oslo is Norway)
  - ✗ **Kyrgyzstan → Bishkek** (not Tajikistan)
  - ✗ **Kuwait → Kuwait City** (Aden is in Yemen)
  - ✗ **Nigeria → Abuja** (Rabat is Morocco)
  - ✗ **Maldives → Malé** (Malabo is Equatorial Guinea)
  - ✗ **Cape Verde → Praia** (Bamako is Mali) PYQ 2020
  - ✗ **Dominica → Roseau** (Santo Domingo is the Dominican Republic).
- **UAE → Abu Dhabi**.
- **Cyprus → Nicosia**.
- **Helsinki** is the European capital closest to the North Pole.

Likely ask: Which country–capital pair is NOT correctly matched.

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Complete list: capitals by region

Region	Country → capital
South Asia	Afghanistan → Kabul · Pakistan → **Islamabad** · Nepal → Kathmandu · Bhutan → Thimphu · Bangladesh → Dhaka · Sri Lanka → **Sri Jayawardenepura Kotte** (Colombo commercial) · Maldives → **Malé** · Myanmar → **Naypyidaw** (earlier Yangon)
South-east Asia	Thailand → Bangkok · Laos → **Vientiane** · Cambodia → Phnom Penh · Vietnam → Hanoi · Malaysia → Kuala Lumpur · Indonesia → Jakarta · Philippines → Manila · Brunei → Bandar Seri Begawan · Timor-Leste → Dili
East Asia	China → Beijing · Mongolia → **Ulaanbaatar** · Japan → Tokyo · North Korea → Pyongyang · South Korea → Seoul · Taiwan → Taipei
Central Asia	Kazakhstan → **Astana** · Uzbekistan → Tashkent · Turkmenistan → Ashgabat · Kyrgyzstan → **Bishkek** · Tajikistan → **Dushanbe**
West Asia	Iran → Tehran · Iraq → Baghdad · Syria → Damascus · Jordan → Amman · Lebanon → Beirut · Saudi Arabia → Riyadh · UAE → **Abu Dhabi** · Qatar → Doha · Bahrain → **Manama** · Kuwait → Kuwait City · Oman → **Muscat** · Yemen → Sana'a · Turkey → **Ankara** · Cyprus → Nicosia · Georgia → **Tbilisi** · Armenia → Yerevan · Azerbaijan → Baku
Africa	Egypt → Cairo · Libya → Tripoli · Tunisia → Tunis · Algeria → Algiers · Morocco → **Rabat** · Sudan → Khartoum · South Sudan → Juba · Ethiopia → Addis Ababa · Kenya → **Nairobi** · Uganda → Kampala · Tanzania → **Dodoma** · Nigeria → **Abuja** · Ghana → Accra · Mali → **Bamako** · Namibia → **Windhoek** · Zambia → Lusaka · Zimbabwe → Harare · Angola → Luanda · Equatorial Guinea → **Malabo** · Cape Verde → **Praia** · Guinea-Bissau → Bissau · South Africa → **Pretoria** (executive), Cape Town (legislature), Bloemfontein (judiciary)
Europe	UK → London · France → Paris · Germany → Berlin · Italy → Rome · Spain → Madrid · Portugal → Lisbon · Netherlands → **Amsterdam** (government at The Hague) · Belgium → Brussels · Switzerland → **Bern** · Austria → **Vienna** · Norway → **Oslo** · Sweden → Stockholm · Finland → **Helsinki** · Denmark → Copenhagen · Poland → Warsaw · Hungary → Budapest · Ukraine → Kyiv · Russia → Moscow
Americas	USA → Washington DC · Canada → **Ottawa** · Mexico → Mexico City · Brazil → **Brasília** · Argentina → Buenos Aires · Chile → **Santiago** · Peru → Lima · Colombia → **Bogotá** · Venezuela → **Caracas** · Uruguay → Montevideo · Bolivia → **Sucre** (La Paz seat of government) · Guyana → **Georgetown** · Dominican Republic → Santo Domingo · Dominica → Roseau · Antigua and Barbuda → St John's · Cuba → Havana
Oceania	Australia → **Canberra** · New Zealand → **Wellington** · Fiji → **Suva** · Papua New Guinea → Port Moresby

Boundaries and borders

- **Bangladesh** has India's longest land border.
- **Rio Grande** = USA–Mexico border.
- **Maginot line** = France–Germany PYQ 1994
- **McMahon Line** = India–China PYQ 2014
- The first cross-border oil pipeline of South Asia (2019) joins **India and Nepal** (Motihari–Amlekhganj) PYQ 2019
- **Rhine** forms an international border.
- **Israel** borders **Lebanon, Syria, Jordan, Egypt** PYQ 2017
- Afghanistan has no border with **Russia**.
- **Zambia** does not touch **Botswana** in the key.
- **Chad** does not touch the Mediterranean.
- **Iraq** is not on the Caspian.
- **Syria** is not on the Black Sea.

Likely ask: Which country does NOT share a border with X.

Complete list: famous boundary lines

Line	Between
Radcliffe Line	India – Pakistan (and Bangladesh)
McMahon Line	India – China (Arunachal)
Durand Line	Pakistan – Afghanistan
Line of Control	India – Pakistan (J&K)
Line of Actual Control	India – China
38th Parallel	North Korea – South Korea
49th Parallel	USA – Canada
17th Parallel	Old North – South Vietnam
Maginot Line	France's defence line facing Germany
Siegfried Line	Germany's defence line facing France

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Line	Between
Oder-Neisse Line	Germany – Poland
Hindenburg Line	Germany – Poland (World War I)
Mannerheim Line	Finland – Russia

India's neighbours	Land border (km)
Bangladesh	4,096 (longest)
China	3,488
Pakistan	3,323
Nepal	1,751
Myanmar	1,643
Bhutan	699
Afghanistan	106 (shortest)

Sea	Countries on its coast
Black Sea	Turkey, Bulgaria, Romania, Ukraine, Russia, Georgia
Caspian Sea	Russia, Kazakhstan, Turkmenistan, Iran, Azerbaijan
Mediterranean (Africa)	Morocco, Algeria, Tunisia, Libya, Egypt
Baltic Sea	Sweden, Finland, Russia, Estonia, Latvia, Lithuania, Poland, Germany, Denmark
Red Sea	Egypt, Sudan, Eritrea, Djibouti, Saudi Arabia, Yemen
Dead Sea	Israel, Jordan (and the West Bank)

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Chapter 9: Energy Resources (76 PYQs · 8.3% of Geography)

PYQ 2021 · ×4 = UPPCS asked this in 2021; asked 4 times in all (different years) · years inside a fact (like 1784) are part of the fact

The one idea: India runs mostly on **coal**. Then comes a short list of plants to place on the map: **nuclear, hydro, wind, oil**. Almost every question is **plant → state** or **plant → type of energy**.

Thermal and nuclear

- **Thermal (coal)** is the largest source of power PYQ 2008, 2017 · ×4
- **NTPC Singrauli** (UP) was asked in 2021 PYQ 2021
- **Obra** (UP) was built with **Russian** help.
- **Ramagundam** is in Andhra Pradesh in the keys (now **Telangana**), not Tamil Nadu.
- **Singareni** is in the Godavari valley.
- Nuclear: **Kudankulam → Tamil Nadu** PYQ ×2; **Kalpakkam → atomic energy** (Tamil Nadu); **Kaiga → Karnataka**; **Rawatbhata → Rajasthan**.
- Nuclear is about **3%** of India's power PYQ 2003
- **Anushakti Vidyut Nigam** = a joint venture of **NPCIL and NTPC** PYQ 2015
- **Thorium** is India's abundant nuclear fuel.

Likely ask: Power plant ↔ state, or plant ↔ type.

Complete list: nuclear power plants

Plant	State	Note
Tarapur	Maharashtra	First (1969)
Rawatbhata (Rajasthan APS)	Rajasthan (Kota)	
Kalpakkam (Madras APS)	Tamil Nadu	Fast breeder reactor
Narora	**Uttar Pradesh** (Bulandshahr)	
Kakrapar	Gujarat	
Kaiga	Karnataka	
Kudankulam	Tamil Nadu	Built with Russia; largest
Gorakhpur	Haryana	Under construction
Jaitapur · Kovvada · Chutka · Mahi Banswara	Maharashtra · Andhra · MP · Rajasthan	Planned

India's **three-stage nuclear plan** (Homi Bhabha): natural uranium reactors → fast breeders (plutonium) → **thorium** reactors.

Complete list: thermal plants

Plant	State
Obra, Anpara, Singrauli, Rihand, Dadri, Unchahar, Tanda	**Uttar Pradesh**
Vindhyachal (NTPC's largest)	Madhya Pradesh
Korba	Chhattisgarh
Talcher	Odisha
Ramagundam	Telangana
Kahalgaon	Bihar
Patratu	Jharkhand
Farakka	West Bengal
Mundra	Gujarat
Neyveli (lignite), Ennore	Tamil Nadu
Uran (gas)	Maharashtra

Hydro power

- **Sidrapong, Darjeeling** (1897) was the **first** hydro plant PYQ ×3
- **Shivanasamudra** (Karnataka, on the Kaveri) is the oldest big plant PYQ ×3; it is **not** in Keralam.
- **Nathpa-Jhakri** → **Sutlej**.
- **Ranjit Sagar** → **Ravi**.
- **Rana Pratap Sagar** is a hydro plant in **Rajasthan** (not MP).
- **Koyna** is a hydro station (Maharashtra) PYQ 1992
- Leading hydro state in the keys: **Himachal Pradesh**.

Likely ask: Hydro project ↔ river.

Complete list: hydro projects

Project	River	State
Sidrapong (first, 1897)	—	West Bengal (Darjeeling)
Shivanasamudra (1902)	Kaveri	Karnataka
Bhakra	Sutlej	Himachal Pradesh
Nathpa-Jhakri	Sutlej	Himachal Pradesh
Tehri (highest dam)	Bhagirathi	Uttarakhand
Rihand	Rihand	**Uttar Pradesh** (Sonbhadra)
Salal, Baglihar, Dulhasti	Chenab	Jammu & Kashmir
Uri	Jhelum	Jammu & Kashmir
Koyna	Koyna	Maharashtra
Idukki	Periyar	Keralam
Sharavati	Sharavati (Jog Falls)	Karnataka
Subansiri Lower	Subansiri	Arunachal–Assam
Kalpong	Kalpong	Andaman & Nicobar

Renewables

- **Solar** has the greatest potential and is the second source after fossil fuels PYQ ×2
- **Wind**: Gujarat leads; Asia's big 150 MW wind farm was in **Tamil Nadu** (Muppandal).
- **Tidal**: **Gulf of Khambhat** PYQ ×2
- Geothermal is **not** found in the **Ganga delta**.
- Wrong pairs asked: **Korba is thermal**, not wind · **Kudankulam is nuclear**, not hydro.

Not asked yet: Bhadla (Rajasthan) is India's largest solar park · Rajasthan leads in solar capacity · Non-fossil sources crossed **50%** of India's installed power capacity in 2025.

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Complete list: renewable sites

Energy	Main sites
Solar	Bhadla (Rajasthan), Pavagada (Karnataka), Kurnool (Andhra), Rewa (MP)
Wind	Muppandal (Tamil Nadu), Kutch (Gujarat), Jaisalmer (Rajasthan)
Tidal	Gulf of Khambhat, Gulf of Kutch, Sundarbans
Geothermal	**Puga valley** (Ladakh), Manikaran (Himachal), Tattapani (Chhattisgarh)

Oil and gas

- **Gujarat** leads in petroleum and natural gas in the keys PYQ ×4
- First oil well: **Digboi**.
- **Ankleshwar, Navagam, Dholka** → Gujarat oil.
- **Jamnagar** is the largest refinery and petrochemical centre PYQ ×3
- **Koyali** → **Gujarat**.
- **Noonmati** → **Assam**.
- **Kandla** and **Hatia** have no refinery.
- **Panangudi** → **Tamil Nadu** PYQ 2006; Nagapattinam is in Tamil Nadu, not Andhra.
- Most natural gas comes from **Bombay High** PYQ 2012
- Gas pipeline **HVJ** (Hazira–Vijaipur–Jagdishpur) was built by **GAIL**.
- **Hazira** fertiliser plant runs on **natural gas**.
- **Uran** gas power → Maharashtra.
- Reliance found gas **off the Andhra coast** (KG basin).

Likely ask: Refinery ↔ state.

Complete list: refineries and oilfields

State	Refineries
Assam	**Digboi** (1901, oldest), Guwahati (Noonmati), Bongaigaon, Numaligarh
Gujarat	**Jamnagar** (Reliance, largest), Koyali (Vadodara), Vadinar
Uttar Pradesh	**Mathura**
Haryana	Panipat
Punjab	Bathinda
Madhya Pradesh	Bina
Bihar	Barauni
West Bengal	Haldia
Odisha	Paradip
Andhra Pradesh	Visakhapatnam
Tamil Nadu	Chennai (Manali), Nagapattinam (Panangudi)
Keralam	Kochi
Karnataka	Mangaluru
Maharashtra	Mumbai (two)
Rajasthan	Barmer (being built)

Oilfield	Where
Mumbai High	Offshore Maharashtra; the largest field
Ankleshwar, Kalol, Navagam, Lunej	Gujarat
Digboi, Naharkatiya, Moran	Assam
Barmer (Mangala)	Rajasthan
KG basin	Off the Andhra coast (gas)

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Chapter 10: Irrigation & River Valley Projects (73 PYQs · 8.0% of Geography)

PYQ 2021 · ×4 = UPPCS asked this in 2021; asked 4 times in all (different years) · years inside a fact (like 1784) are part of the fact

The one idea: every project is **dam → river → state**. Learn them **river by river**, and the wrong-pair questions fall out.

Projects asked

- **Sardar Sarovar → Narmada** PYQ 1992, 1993 · ×3; it benefits **Gujarat, Maharashtra, MP and Rajasthan** PYQ 1999
- **Nagarjuna Sagar → Krishna**, Andhra Pradesh PYQ 1993; it is **not** on the Godavari PYQ 1991, 2008, 2012 · ×4
- **Tehri → Bhagirathi**, at its meeting with the **Bhilangana** PYQ 2002 · ×2
- **Kol dam → Sutlej**.
- **Bhakra Nangal**: Punjab, Haryana, Rajasthan PYQ 1994; it is on the Sutlej, **not the Jhelum**.
- **Tulbul → Jhelum** PYQ ×2
- **Ranjit Sagar → Ravi**.
- **Baglihar → Chenab**, Jammu & Kashmir PYQ 2000
- **Rajghat** and **Rani Laxmi Bai** dams → **Betwa** (UP–MP) PYQ ×3
- **Govind Ballabh Pant Sagar → UP** (Rihand).
- **Bansagar → Son**.
- **Chambal valley** serves more than one state; **Gandhi Sagar** is on the Chambal PYQ 2007; **Govind Sagar** is not part of it.
- **Indira Gandhi Canal** starts at **Harike** (Sutlej) and uses Pong dam water PYQ 1999 · ×3
- **Indira Sagar** drowned **Harsud** town (MP).
- **Telugu Ganga**: Andhra Pradesh, Tamil Nadu, Karnataka (Krishna water to Chennai) PYQ 1999 · ×2
- **Kishau dam** (2015 agreement): **Uttarakhand and Himachal**.
- **Farakka** keeps water flowing in the **Hooghly**.
- **Ukai → Gujarat**.
- **Pochampad → Godavari**.
- **Shivanasamudra → Karnataka**.
- **Sharavati** is at Jog Falls.
- **Cheruthoni → Periyar**.
- Wrong pairs asked:
  - ✗ **Tilaiya** is on the **Barakar**, not the Konar PYQ ×2
  - ✗ **Tawa** joins the **Narmada**, not the Krishna
  - ✗ **Jawai** is in **Rajasthan**.
- **Drip irrigation** saves the most water.
- **UP** gets the most irrigation from **tube wells** PYQ 1995, 2006, 2016
- **Garland canal**: **Dinshaw Dastur** PYQ 1999
- **Kalpasar** freshwater project → **Gujarat**; **Suil** project → **Himachal** PYQ 2010
- **Buckingham canal** is for boats.
- Nehru called multipurpose projects **"the temples of modern India"** PYQ 2008
- India built hydro projects in **Bhutan** (Chukha, yr 1995); PM Modi inaugurated **Mangdechhu** in Bhutan in 2019 PYQ 2019

Likely ask: Dam ↔ river ↔ state, or which pair is NOT correct.

Complete list: dams river by river

River	Dams / projects	State
Sutlej	Bhakra (Govind Sagar), Nangal, Nathpa-Jhakri, Kol	Himachal, Punjab
Beas	Pong (Maharana Pratap Sagar), Pandoh	Himachal
Ravi	Ranjit Sagar (Thein)	Punjab
Chenab	Salal, Baglihar, Dulhasti, Ratle	Jammu & Kashmir
Jhelum	Uri, **Tulbul** (Wular lake)	Jammu & Kashmir
Bhagirathi	**Tehri**	Uttarakhand
Ramganga	Kalagarh	Uttarakhand
Ganga	**Farakka** barrage, Narora barrage	West Bengal, UP
Rihand	**Rihand** (Govind Ballabh Pant Sagar)	**Uttar Pradesh**
Betwa	**Rajghat**, **Matatila**, Parichha	UP–MP
Son	**Bansagar**	MP (with UP, Bihar)
Chambal	**Gandhi Sagar** (MP), **Rana Pratap Sagar**, **Jawahar Sagar**, Kota barrage (Rajasthan)	MP, Rajasthan
Damodar (DVC)	**Tilaiya** (Barakar), **Maithon** (Barakar), **Konar** (Konar), **Panchet** (Damodar)	Jharkhand, West Bengal

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River	Dams / projects	State
Mahanadi	**Hirakud** (longest earthen dam)	Odisha
Narmada	**Sardar Sarovar**, **Indira Sagar**, Omkareshwar, Bargi	Gujarat, MP
Tapi	**Ukai**, Kakrapar	Gujarat
Godavari	Pochampad (Sriram Sagar), Polavaram, Jayakwadi	Telangana, Andhra, Maharashtra
Krishna	**Nagarjuna Sagar**, Srisailam, Almatti	Telangana–Andhra, Karnataka
Tungabhadra	Tungabhadra dam	Karnataka
Koyna	Koyna	Maharashtra
Kaveri	**Mettur** (Tamil Nadu), **Krishnaraja Sagar** (Karnataka)	
Periyar	**Idukki / Cheruthoni**, Mullaperiyar	Keralam

Complete list: canals and irrigation facts

Canal	Source	Area
Indira Gandhi (Rajasthan) Canal	**Harike barrage** (Sutlej + Beas)	Rajasthan; longest canal
Upper Ganga Canal	Haridwar	Western UP
Lower Ganga Canal	Narora	Central UP
Sharda Canal	Banbasa	UP
Eastern and Western Yamuna Canals	Tajewala / Hathnikund	UP, Haryana
Sirhind Canal	Sutlej (Ropar)	Punjab
Buckingham Canal	—	Andhra–Tamil Nadu coast (boats)
Telugu Ganga	Krishna	Water for Chennai

Fact	Answer
Biggest source of irrigation in India	**Wells and tube wells** (about 60%)
State with most tube-well irrigation	**Uttar Pradesh**
Tanks are common in	Tamil Nadu, Karnataka, Andhra (hard rock)
Saves the most water	**Drip**, then sprinkler
Garland canal plan	**Dinshaw J. Dastur**
Ganga–Kaveri link plan	**K.L. Rao**
First river-link project	**Ken–Betwa** (UP–MP)
Multipurpose project idea taken from	**Tennessee Valley Authority** (USA) → Damodar Valley Corporation (1948)

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Section C: Science

2 chapters

Chapter 11: Human Diseases (158 PYQs · 24.6% of Biology)

PYQ 2021 · ×4 = UPPCS asked this in 2021; asked 4 times in all (different years) · years inside a fact (like 1784) are part of the fact

The one idea: every disease question asks **who causes it, how it spreads, and which organ it hits**. Learn the germ first; the answer follows.

Viral diseases

- **Hepatitis** is caused by a virus and damages the **liver** PYQ ×4
- Hepatitis B is a **DNA virus**.
- **AIDS** = Acquired Immune Deficiency Syndrome.
- HIV is a **retrovirus** PYQ 1993, 2011; **Robert Gallo** identified it PYQ 1999
- The type common in India is **HIV-1 C**.
- Test: **ELISA**.
- Project **Sankalp** was for AIDS/HIV.
- **Japanese encephalitis**: virus PYQ 2008 · ×4; it is **not** spread by the tiger (Aedes) mosquito PYQ 2013
- Keeping **pigs** away from homes helps control it.
- **Polio**: enters through **polluted food and water** PYQ 1993
- **Salk** made the polio vaccine PYQ 1991, 1995, 2010
- **Dengue**: spread by the **Aedes** mosquito PYQ 2022; **platelets fall** PYQ 2012
- Rabies (hydrophobia), bird flu (**H5N1**), and common cold (**rhinovirus**, yr 1996) are viral too.
- **Meningitis** = swelling of the brain and spinal-cord membranes PYQ 2008
- A disease spread across many countries = **pandemic** PYQ 2015
- **Nipah** broke out in **Keralam** in 2018 PYQ 2018
- Diarrhoea deaths in Indian babies: **rotavirus**.
- Covid vaccines: **Moderna = mRNA** PYQ 2023, **Sinovac = whole virus**.

> **Not asked yet:** Zika and chikungunya also spread by Aedes · Hepatitis A and E spread through water, B and C through blood · Nipah is carried by **fruit bats**.

Likely ask: Which disease is NOT viral (answer: typhoid, TB, diphtheria are bacterial).

Bacterial diseases

- **Tuberculosis** is bacterial, not viral PYQ 2022 · ×6
- Vaccine **BCG**, given **just after birth** PYQ 1991
- Test: **Mantoux test**.
- **Tetanus** = **lock jaw** PYQ ×2
- **Typhoid** is confirmed by the **Widal test**.
- **Cholera** is water-borne PYQ 2015
- **Sulpha drugs** are antibacterial PYQ 2022
- **Botulism** (food poisoning) is caused by **Clostridium**; it is a food-borne intoxication PYQ 2021
- **Triple antigen (DPT)** protects against **diphtheria, pertussis (whooping cough), tetanus** PYQ 1994 · ×2
- Diphtheria vaccine type: **toxoid** PYQ 2023
- **Rinderpest** (cattle plague) was declared wiped out in 2011 PYQ 2012

Likely ask: Match disease → germ type, or test → disease (Widal, Mantoux, ELISA).

Protozoan diseases

- **Malaria** is caused by a protozoan, *Plasmodium*.
- **P. vivax** causes most cases in India PYQ 2012
- **Ronald Ross** proved mosquitoes carry malaria PYQ 1999
- Medicine: **quinine from the bark of cinchona** PYQ 2015, 2016 · ×2; hydroxychloroquine also comes from cinchona.
- **Arteether** comes from a seed plant PYQ 2005
- **Kala-azar** is protozoan, not bacterial.
- **Sleeping sickness** is not spread by mosquitoes PYQ 2021; **plague** neither PYQ 1997
- Malaria and dengue differ in **mosquito species** PYQ 1998
- **Athlete's foot** is fungal PYQ 2008

Likely ask: Which of these is NOT spread by mosquitoes.

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Complete list: which germ causes which disease

Germ	Diseases
Virus	Polio, measles, mumps, rubella, chickenpox, smallpox, rabies, influenza, bird flu (H5N1), swine flu (H1N1), Covid-19, AIDS, hepatitis A–E, dengue, chikungunya, Zika, yellow fever, Japanese encephalitis, Nipah, Ebola, herpes, common cold
Bacteria	Tuberculosis, leprosy, cholera, typhoid, tetanus, diphtheria, whooping cough, plague, pneumonia, anthrax, botulism, bacillary dysentery, gonorrhoea, syphilis
Protozoa	Malaria (*Plasmodium*), kala-azar (*Leishmania*), sleeping sickness (*Trypanosoma*), amoebic dysentery (*Entamoeba*), giardiasis
Fungi	Ringworm, athlete's foot, candidiasis, dandruff
Worms	Filaria (elephantiasis), roundworm (ascariasis), tapeworm, hookworm
Prion	Mad cow disease

Complete list: vectors (who carries the germ)

Vector	Diseases it spreads
Female Anopheles mosquito	Malaria
Aedes mosquito (tiger mosquito)	Dengue, chikungunya, Zika, yellow fever
Culex mosquito	Filaria, Japanese encephalitis (pigs are the amplifier host)
Sandfly	Kala-azar
Tsetse fly	Sleeping sickness
Housefly	Typhoid, cholera, dysentery (carries germs on its body)
Rat flea	Plague
Tick	Kyasanur forest disease (monkey fever)
Dog, bat (bite)	Rabies; fruit bats carry Nipah

Complete list: vaccines

Vaccine	Protects against	Type
BCG	Tuberculosis	Live, weakened
OPV / IPV	Polio	OPV live (oral, Sabin) · IPV killed (injection, Salk)
DPT (triple antigen)	Diphtheria, pertussis, tetanus	Toxoid + killed
Pentavalent	DPT + hepatitis B + Hib	Combined
MR	Measles, rubella	Live, weakened
Rotavirus	Diarrhoea in babies	Live, oral
PCV	Pneumonia	Conjugate
JE	Japanese encephalitis	Killed or live
Covid-19	Covid	Moderna, Pfizer = mRNA · Covishield = viral vector · Covaxin, Sinovac = whole killed virus

Deficiency diseases

- **Vitamin A → night blindness**.
- **Vitamin C → scurvy** (amla treats it).
- **Vitamin B1 → beriberi**: polished rice PYQ 2010, 2019, 2020 · ×3
- **B2 (riboflavin) → cheilosis** PYQ 2021
- **Scurvy → amla** PYQ 2011
- **Iodine → goitre** PYQ 2007, 2017 · ×3; sea grass is rich in iodine.
- **Iron → anaemia** PYQ 2014, 2015
- The trap pairs: **"Vitamin K — sterility"** and **"Vitamin A — colour blindness"** are wrong pairs PYQ 2008 · ×4; so is **"Vitamin D — anti-sterility"** PYQ 2017

Likely ask: Which vitamin–disease pair is NOT correctly matched.

Complete list: vitamins

Fat-soluble (stored in the body): **A, D, E, K**. Water-soluble (not stored, needed daily): **B group and C**.

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Vitamin	Chemical name	Deficiency disease	Main source
A	Retinol	Night blindness, xerophthalmia	Carrot, milk, fish-liver oil
B1	Thiamine	Beriberi	Whole grains (lost in polished rice)
B2	Riboflavin	Cheilosis (cracked lips), skin cracks	Milk, eggs, green vegetables
B3	Niacin	Pellagra	Groundnut, meat
B5	Pantothenic acid	Burning feet	Most foods
B6	Pyridoxine	Anaemia, convulsions	Cereals, yeast
B7	Biotin	Hair loss, skin problems	Egg yolk, liver
B9	Folic acid	Megaloblastic anaemia	Green leafy vegetables
B12	Cobalamin (has **cobalt**)	Pernicious anaemia	Meat, milk
C	Ascorbic acid	Scurvy (bleeding gums)	Amla, citrus fruits
D	Calciferol	Rickets (children), osteomalacia (adults)	Sunlight, fish oil
E	Tocopherol	Infertility (sterility)	Vegetable oils, nuts
K	Phylloquinone	Blood does not clot (bleeding)	Green leaves

Complete list: minerals and nutrition

Lack of	Disease
Iodine	Goitre
Iron	Anaemia
Calcium	Weak bones, osteoporosis
Zinc	Stunted growth
Potassium	Muscle paralysis, kidney damage
Protein	Kwashiorkor (swollen belly)
Protein + energy	Marasmus (very thin body)

Too much **fluoride** → fluorosis (knock-knee).

Poisons, tests and isotopes

- **Minamata = mercury** PYQ 2008 · ×2 · **Itai-itai = cadmium** · **Blue baby = methaemoglobin** PYQ 2021 · **Mad cow = prions** · **Aflatoxin → liver**.
- **Gout** = high **uric acid** PYQ ×2 · **Bright's disease → kidney** PYQ 1991 · **Emphysema → lungs** · **Leukaemia** = too many white blood cells PYQ 2016
- **Cerebral palsy** affects small children PYQ 2014
- **Anosmia** = loss of smell PYQ 2011
- Genetic: **haemophilia** (blood does not clot) and **colour blindness** are **sex-linked, recessive** diseases carried on the X chromosome PYQ 2003, 2008, 2009, 2016
- **BMD test → osteoporosis** PYQ ×3 · **EEG → brain** PYQ ×2
- Isotopes: **Arsenic-74 → tumours** PYQ ×3 · **Sodium-24 → blood clots** · **Phosphorus-32 → blood cancer** PYQ 2016

Likely ask: Isotope ↔ use, or disease ↔ metal.

Complete list: tests and isotopes

Test	For
Widal	Typhoid
Mantoux	Tuberculosis
ELISA, Western blot	HIV/AIDS
NS1	Dengue
RT-PCR	Covid-19
BMD	Osteoporosis
ECG · EEG · EMG	Heart · brain · muscles

Isotope	Use
Cobalt-60	Cancer radiotherapy
Iodine-131	Thyroid diseases
Phosphorus-32	Blood cancer (leukaemia)

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Isotope	Use
Arsenic-74	Finding tumours
Sodium-24	Finding blood clots
Iron-59	Anaemia studies
Carbon-14	Dating old objects

Chapter 12: Human Physiology (116 PYQs · 18.1% of Biology)

PYQ 2021 · ×4 = UPPCS asked this in 2021; asked 4 times in all (different years) · years inside a fact (like 1784) are part of the fact

The one idea: the body is a set of systems. UPPCS asks **which organ does the job, and which number is normal**: blood pH, bones, urine, temperature.

Digestion

- Most digestion happens in the **small intestine** PYQ 1991
- Protein digestion **begins in the stomach** PYQ 2020; **trypsin** digests protein PYQ 2010
- **Bile** is made in the **liver** PYQ 1999 and **emulsifies fats**; gallstones hurt **fat** digestion PYQ 2017
- Extra glucose is stored as **glycogen in the liver**.
- **Liver** is the **largest gland** PYQ ×2
- **Appendix** is a vestigial organ.
- **Secretin** makes the pancreas release digestive juice PYQ 1996
- **Pancreas** is both an endocrine and an exocrine gland PYQ 2019

Likely ask: Where does most digestion happen, or what does bile do.

Complete list: digestive juices and enzymes

Where	Juice / enzyme	Breaks down
Mouth	Saliva: **ptyalin (salivary amylase)**	Starch → maltose
Stomach	**Pepsin** (with HCl) · rennin	Protein → peptides · milk protein
Liver	**Bile** (no enzyme)	Emulsifies fat
Pancreas	**Trypsin** · **amylase** · **lipase**	Protein · starch · fat
Small intestine	Maltase, sucrase, lactase, peptidase	Sugars → glucose; peptides → amino acids

- End products: carbohydrate → **glucose**, protein → **amino acids**, fat → **fatty acids + glycerol**.
- Water is absorbed in the **large intestine**.
- Teeth: adult **32** (incisors 8, canines 4, premolars 8, molars 12).
- Enamel is the hardest substance in the body.

Blood and heart

- **Carbon monoxide** forms a near-permanent bond with haemoglobin PYQ ×4
- Haemoglobin **carries oxygen**.
- Normal blood pressure **120/80 mm Hg** PYQ 1993; **Hg = mercury** PYQ 2015
- **Pacemaker = SA node**; it sets the heart rate PYQ 1999 · ×4
- The heart rests **between two beats** PYQ 2008
- The heart has **four chambers** PYQ 2023
- First heart transplant: **Christiaan Barnard** PYQ 2021
- Plasma is about **90% water**.
- Blood **pH 7.35–7.45** PYQ ×2
- An adult has about **5 litres** of blood.
- **Potassium** controls the heartbeat.
- Blood groups: **Karl Landsteiner** PYQ 2003
- Blood is red due to **haemoglobin** PYQ 1990, 1991; **myoglobin** also contains iron PYQ 2020
- **Rh factor** is named after the **Rhesus monkey** (Landsteiner and Wiener).
- **O negative = universal donor** PYQ 2016; **AB = universal recipient** (no antibodies).
- **Thrombin** turns fibrinogen into fibrin in **clotting** PYQ 2011 · ×2
- **Spleen** destroys old RBCs.
- CO_2 travels mostly as **bicarbonate**.
- Cockroach has **white blood**.

> **Not asked yet:** RBCs live about **120 days** and are made in **red bone marrow** · RBCs have no nucleus.

Likely ask: Universal donor/recipient, or normal blood pH.

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Complete list: blood groups

Group	Antigen on RBC	Antibody in plasma	Can give to	Can take from
A	A	anti-B	A, AB	A, O
B	B	anti-A	B, AB	B, O
AB	A and B	none	AB only	all (**universal recipient**)
O	none	anti-A, anti-B	all (**universal donor**)	O only

Blood fact	Normal value
Blood volume	About 5 litres (7–8% of body weight)
pH	7.35–7.45 (slightly basic)
Blood pressure	120/80 mm Hg
Heart rate	72 beats a minute
RBC life	About 120 days
Blood sugar unit	mg/dL

Blood part	Job
RBC	Carries oxygen (haemoglobin, iron)
WBC	Fights germs (antibodies); too many = leukaemia
Platelets	Clotting; fall in dengue
Plasma	Liquid part, about 90% water

Brain, nerves and senses

- **Hypothalamus** controls body temperature, hunger and thirst PYQ ×2
- The brain itself feels **no pain** PYQ 2017
- **Nerve cells** do not divide after birth.
- Eye: **cone cells** see colour; **cornea** has no blood vessels; **retina** = the film of a camera; **conjunctiva** swells with dust.
- Body temperature **98.4–98.6 °F ≈ 37 °C**; it stays the same in summer and winter PYQ 2007, 2015
- Brain is the **least** hurt by radiation; **eyes** are the most.

Likely ask: Which part of the brain controls temperature.

Complete list: brain parts

Part	Controls
Cerebrum (largest part)	Thinking, memory, intelligence, voluntary actions
Cerebellum	Balance and muscle coordination
Medulla oblongata	Heartbeat, breathing, vomiting, sneezing (involuntary)
Hypothalamus	Temperature, hunger, thirst; links to the pituitary
Spinal cord	Reflex actions

Eye part	Job
Cornea	Clear front window; no blood vessels (can be donated)
Iris / pupil	Controls light entering
Lens	Focuses the image
Retina	Screen where the image forms; **rods** (dim light), **cones** (colour)

Eye defects: **myopia** (near-sighted) → concave lens · **hypermetropia** (far-sighted) → convex lens · **presbyopia** (old age) → bifocal · **astigmatism** → cylindrical lens.

Excretion

- **Urea** is made in the **liver** PYQ ×2 and separated in the **kidney**.
- Urine is yellow because of **urochrome**.
- Urine about **1.5 litres** a day; the kidneys filter about **180 litres** a day.
- Kidney stones = **calcium oxalate** PYQ 2015
- Regulating blood sugar is **not** a kidney job PYQ 2011

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- **ADH** controls urine output.
- **Dialysis** works on the kidney PYQ ×3
- Albumin in urine points to **kidney failure**.
- **Liver** removes alcohol.

Likely ask: Where is urea made, and where is it removed.

Breathing, bones and muscles

- Gas exchange happens in the **alveoli** PYQ 2021
- Energy is stored as **ATP**.
- **Nitrogen** stays the same in inhaled and exhaled air.
- Less oxygen → **faster breathing** PYQ 2000 · ×2
- An adult has **206 bones**.
- Smallest bone: **stapes** (ear) PYQ ×2
- Bones are mostly **calcium phosphate**; long leg bones are **hollow** PYQ 1994
- **Arthroplasty** = hip-joint replacement PYQ 2001
- **Lactic acid** causes muscle fatigue PYQ ×2
- Strongest muscle: **jaw**.

> **Not asked yet:** Largest bone: **femur** (thigh) · A newborn has about **300 bones**, which join to 206.

Likely ask: Smallest bone, or number of bones.

Vitamins and nutrition

- **Casimir Funk** coined the word "vitamin" PYQ 2012
- **Vitamin A** is stored in the **liver** PYQ 1997; **retinol** = vitamin A PYQ 2021
- **Cholecalciferol / calciferol = vitamin D** PYQ 1997, 2015
- **B12** (cyanocobalamin) has **cobalt** PYQ 1996, 2001 and is made by **gut bacteria** PYQ 2020
- **Vitamin E**: wheat-germ oil PYQ 2016
- Best vitamin C source: **amla** PYQ 1995, 2018
- **Fats** give the most calories per gram PYQ 1999; **water gives zero** PYQ 2015
- **Spinach** is rich in iron PYQ 2008; **mother's milk lacks iron** PYQ 2019
- **Groundnut** is rich in both protein and fat PYQ 2010
- **Cholesterol** is a steroid PYQ 2005
- Milk: white from **casein**, a protein PYQ 2008, 2012; sweet from **lactose** PYQ 2007; yellowish from **carotene** PYQ 1992
- Basmati grains lengthen because of **amylose** PYQ 2015

Likely ask: Which vitamin has cobalt, or which food is richest in vitamin C.

Hormones

- **Insulin** (a protein) comes from the **beta cells** of the islets of Langerhans in the **pancreas** PYQ 1993, 2023 · ×3
- **Adrenaline** = fight or flight PYQ 2001, 2003
- **Oxytocin** = milk let-down and mother–baby bonding PYQ 1997 · ×3
- **Pheromones** are chemical signals mostly made by **insects** PYQ 2015
- **Thyroxine** contains **iodine**.
- **Melatonin** = sleep; bright light at bedtime is bad.
- **Estrogen** stops after menopause.
- Smallest gland as per the answer key: **pituitary** PYQ 1996
- The wrong pair asked: "gastrin — blood pressure" (gastrin helps digestion) PYQ 2017

Likely ask: Hormone ↔ gland ↔ job.

Complete list: glands and hormones

Gland	Hormone	Job
Pituitary ("master gland")	Growth hormone, ADH, oxytocin, TSH, FSH, LH, prolactin	Growth, water balance, controls other glands
Hypothalamus	Releasing hormones	Controls the pituitary
Thyroid	**Thyroxine** (has iodine)	Metabolism; lack = goitre
Parathyroid	Parathormone	Blood calcium
Adrenal	**Adrenaline**, cortisol, aldosterone	Fight or flight; stress; salt balance
Pancreas (islets)	**Insulin** (beta cells), **glucagon** (alpha cells)	Lowers / raises blood sugar
Pineal	**Melatonin**	Sleep cycle
Thymus	Thymosin	Immunity in children
Testes	**Testosterone**	Male characters
Ovaries	**Estrogen**, progesterone	Female characters, pregnancy
Stomach	Gastrin	Digestive juice
Small intestine	Secretin	Pancreatic juice

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Complete list: body numbers

Fact	Value
Bones (adult)	206
Teeth (adult)	32
Largest organ	Skin
Largest gland	Liver
Smallest bone	Stapes
Largest bone	Femur
Body temperature	37 °C (98.6 °F)
Urine a day	About 1.5 litres
Breathing rate	12–20 a minute

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Section D: Polity

2 chapters

Chapter 13: Articles, Schedules & Parts (90 PYQs · 14.9% of Polity)

PYQ 2021 · ×4 = UPPCS asked this in 2021; asked 4 times in all (different years) · years inside a fact (like 1784) are part of the fact

The one idea: the Constitution is a **shelf of Parts**, each Part holds a run of **Articles**, and the **Schedules** are the tables at the back. Learn the shelf in order and most "which Article" questions answer themselves.

Articles

- **Money Bill: Article 110** PYQ 2019 · ×2 · **Annual budget: 112** · **Finance Bill: 117** · **Ordinance: 123** · **Speaker's casting vote: 100** PYQ 2000, 2015
- **Election Commission: 324** PYQ ×2 · **Finance Commission: 280** · **All India Services: 312** · **No tax without law: 265**.
- **Amendment: 368** PYQ 2015 · **President's rule: 356** PYQ 2006 · **National emergency: 352**.
- Articles **20 and 21** cannot be suspended in an emergency PYQ 2015
- **Article 1**: India is a **Union of States** PYQ 2008, 2019 · **Citizenship: Articles 5–11**, Part II PYQ 2018, 2020 · **Equal protection of law: 14** PYQ 2009 · **Untouchability: 17** PYQ 1994 · **Travel abroad: 21** PYQ 1997 · **Kirpan: 25** PYQ 1996 · **Article 32** enforces only Fundamental Rights PYQ 1997
- **Child labour in factories: 24** PYQ ×2 · **Minorities' schools: 30** · Article 21 does not cover capital punishment PYQ 2017. "Hindu" in Article 25 does not include **Parsis**.
- **Article 249**: Parliament can make law on a State-list subject in the national interest; the Rajya Sabha resolution lasts **up to one year** PYQ 2017 · ×2
- **Article 253**: laws to carry out international agreements PYQ 2006, 2016 · ×2
- **Village panchayats: 40** PYQ 2015 · **Workers in management: 43A** · **Foreign policy / international peace: 51** PYQ 2016 · **Protect the environment: 51A(g)**, a Fundamental Duty PYQ 1998 · **Primary education in mother tongue: 350A** PYQ 2002, 2003 · **Supreme Court reviews its own judgment: 137** · **Legislative Council: 169** PYQ 2013; it can be abolished, not dissolved.
- **Governor's appointment: 155** PYQ 2015
- **Article 162** = extent of the State's executive power PYQ 2019
- **Legal name of the Government of India: "Union of India"** (Article 300).
- **Anglo-Indians in the Lok Sabha: 331** PYQ 2013, 2015
- **Article 371**: Maharashtra and Gujarat PYQ 1997
- **Finance between Centre and states: Articles 268–281** PYQ 2014
- **Contingency Fund: 267** PYQ 2021
- Wrong pairs asked:
  - ✗ Article 48 is **cow protection and agriculture**, not separation of judiciary (that is **50**) PYQ 2013, 2020
  - ✗ ×2
  - ✗ Protection against arrest is **22**, not 23
  - ✗ Minorities' schools is **30**, not 31.

Likely ask: Which Article ↔ which subject is NOT correctly matched.

Complete list: Articles to remember

Article	Subject
1	India, that is Bharat, shall be a Union of States
3	Parliament forms new states, changes boundaries
5–11	Citizenship
12–35	Fundamental Rights
14 / 15 / 16	Equality before law / no discrimination / equal chance in public jobs
17 / 18	Untouchability abolished / titles abolished
19	Six freedoms (speech, assembly, association, movement, residence, profession)
21 / 21A	Life and personal liberty / education for 6–14 years
22	Protection against arrest and detention
23 / 24	No trafficking or forced labour / no child labour under 14 in factories

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Article	Subject
25–28	Freedom of religion
29 / 30	Culture of minorities / minorities' educational institutions
32	Constitutional remedies (writs in Supreme Court), "heart and soul" (Ambedkar)
36–51	Directive Principles
39A / 40 / 44 / 45	Free legal aid / village panchayats / uniform civil code / early childhood care
48 / 48A / 50 / 51	Agriculture, cows / environment / judiciary separate from executive / international peace
51A	Fundamental Duties
52 / 53 / 61	President / his executive power / impeachment of President
63 / 66	Vice-President / his election
72	President's pardoning power
74 / 75 / 78	Council of Ministers / appointment of PM and ministers / PM's duty to inform President
76	Attorney General
79 / 80 / 81	Parliament / Rajya Sabha / Lok Sabha
85 / 86 / 87	Summoning and dissolution / President's address / special address to both Houses
93 / 100	Speaker and Deputy Speaker / voting, casting vote
108	Joint sitting
110 / 112 / 117	Money Bill / annual budget / Finance Bill
123	Ordinance by President
124	Supreme Court
137 / 143	Review of judgment / President asks SC's advice
148	Comptroller and Auditor General
153 / 155	Governor / his appointment
163 / 164	Council of Ministers in states / Chief Minister
169	Create or abolish Legislative Council
200	Governor's assent to Bills
213	Ordinance by Governor
214 / 226	High Courts / writs in High Courts
239AA	Special provisions for Delhi
243	Panchayats (Part IX)
249 / 250 / 252 / 253	Parliament on State subjects: national interest / emergency / two or more states agree / international treaty
262 / 263	Inter-state river disputes / Inter-State Council
265 / 266 / 267	No tax without law / Consolidated Fund / Contingency Fund
275 / 280	Grants to states / Finance Commission
300 / 300A	Suits by and against Government / right to property (legal right)
312	All India Services
315	Public Service Commissions
323A / 323B	Administrative tribunals / other tribunals
324 / 326	Election Commission / adult franchise
330 / 332	Seats for SC/ST in Lok Sabha / in state assemblies
338 / 338A / 338B	National Commission for SC / ST / Backward Classes
343 / 351	Hindi in Devanagari / development of Hindi
350A	Primary education in mother tongue
352 / 356 / 360	National emergency / President's rule / financial emergency
368	Amending the Constitution
370	Jammu and Kashmir (made inoperative in 2019)
371 to 371J	Special provisions for some states

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Schedules

- **Seventh Schedule = Union, State and Concurrent lists** PYQ 1993, 1997 · ×6
- **Railway police** is a State subject PYQ 2001
- **Concurrent: criminal procedure**.
- **State: police, prisons, law and order**.
- **Union: defence, foreign affairs, railways, banking, insurance, census**.
- **Agriculture is not in the Union list**.
- Share market is **not** concurrent.
- **Ninth Schedule**: land reform laws, added under **Nehru** PYQ ×3; the **I.R. Coelho case** (2007) is about it.
- **Tenth = anti-defection** · **Eleventh = Panchayati Raj, 29 subjects** PYQ 2015, 2019 · ×2 · **Fourth = Rajya Sabha seats** PYQ ×2 · **First = states and territories**; a new state means amending it PYQ ×2
- Wrong pair asked: Rajya Sabha seats are in the **Fourth**, not the Second Schedule PYQ 2019
- **Sixth Schedule**: tribal areas of **Assam, Meghalaya, Tripura, Mizoram** PYQ 2019
- **Eighth Schedule**: Rajasthani is **not** in it PYQ 1993; the **71st Amendment (1992)** added **Konkani, Manipuri, Nepali** PYQ 2011

Likely ask: Which Schedule ↔ subject is NOT correctly matched.

Complete list: all 12 Schedules

Schedule	Contents	Note
First	Names of states and Union Territories, their territories	Amended for a new state
Second	Pay and allowances: President, Governors, Speakers, judges, CAG	
Third	Forms of oath and affirmation	President's oath is in Article 60, not here
Fourth	Seats in the Rajya Sabha for each state and UT	
Fifth	Scheduled Areas and Scheduled Tribes (other states)	
Sixth	Tribal areas of **Assam, Meghalaya, Tripura, Mizoram**	
Seventh	Union List, State List, Concurrent List	
Eighth	**22 languages** (14 at the start)	Last added in 2003: Bodo, Dogri, Maithili, Santhali
Ninth	Laws protected from court review (land reforms)	1st Amendment, 1951
Tenth	Anti-defection	52nd Amendment, 1985
Eleventh	Panchayats, **29 subjects**	73rd Amendment, 1992
Twelfth	Municipalities, **18 subjects**	74th Amendment, 1992

Complete list: Seventh Schedule

List	Count now (at start)	Main subjects
Union	100 (97)	Defence, foreign affairs, railways, banking, currency, insurance, census, atomic energy, posts, citizenship
State	61 (66)	Police, public order, prisons, public health, agriculture, land, local government, betting
Concurrent	52 (47)	Criminal law and procedure, marriage and divorce, adoption, **education, forests, wildlife, weights and measures, population control** (moved from State by the **42nd Amendment**), trade unions, electricity, newspapers

Residuary powers rest with **Parliament** (Article 248), as in Canada.

Parts

- The Constitution had **22 Parts** at the start (asked as "twenty-two parts").
- Order asked: **Union and its territory → Citizenship → Fundamental Rights → Fundamental Duties**.
- **Panchayats: Part IX** PYQ 2013, 2016, 2017, 2020
- **Co-operative societies, Article 243ZJ**: at most **21 directors** PYQ 2016
- Wrong pairs asked:
  - ✗ **Tribunals** are **Part XIV-A** (not XI or X) PYQ ×2
  - ✗ **Attorney General** is in **Part V** (not XIII) PYQ 2020

Likely ask: Part ↔ subject, or arrange in the order of the Constitution.

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Complete list: all Parts

Part	Subject	Articles
I	The Union and its territory	1–4
II	Citizenship	5–11
III	Fundamental Rights	12–35
IV	Directive Principles	36–51
IV-A	Fundamental Duties	51A
V	The Union (President, Parliament, Supreme Court, CAG)	52–151
VI	The States	152–237
VII	Part B states (repealed in 1956)	—
VIII	Union Territories	239–242
IX	Panchayats	243–243O
IX-A	Municipalities	243P–243ZG
IX-B	Co-operative societies	243ZH–243ZT
X	Scheduled and tribal areas	244–244A
XI	Centre–state relations	245–263
XII	Finance, property, contracts	264–300A
XIII	Trade and commerce within India	301–307
XIV	Services (UPSC, PSCs)	308–323
XIV-A	Tribunals	323A–323B
XV	Elections	324–329A
XVI	Special provisions for some classes (SC, ST, Anglo-Indian)	330–342A
XVII	Official language	343–351
XVIII	Emergency provisions	352–360
XIX	Miscellaneous	361–367
XX	Amendment of the Constitution	368
XXI	Temporary and special provisions	369–392
XXII	Short title, commencement, Hindi text, repeals	393–395

At the start: **395 Articles, 22 Parts, 8 Schedules**. Now: Parts IV-A, IX-A, IX-B and XIV-A are added and VII is gone, so **25 Parts and 12 Schedules**.

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Chapter 14: Parliament (74 PYQs · 12.2% of Polity)

PYQ 2021 · ×4 = UPPCS asked this in 2021; asked 4 times in all (different years) · years inside a fact (like 1784) are part of the fact

The one idea: **Parliament = President + Lok Sabha + Rajya Sabha**. UPPCS asks **who presides, how many days, which majority, and which House has the special power**.

Structure and powers

- Parliament includes the **President and both Houses** PYQ 2012, 2015, 2017 · ×3
- The parliamentary form began in **Great Britain** PYQ 2018
- A Bill becomes law only with the President's assent; the President can withhold assent.
- **Parliament** alone can form a new state or change boundaries (Article 3), by **simple majority** PYQ 2016; it is **not** an amendment under Article 368 PYQ 1990, 2020 · ×3
- Residuary subjects: **Parliament** PYQ 1991, 2015
- Official-language provisions: amended by **simple majority** PYQ 2018
- Parliament's sovereignty is limited by **judicial review**.
- Parliament must meet **at least twice a year** PYQ 1995
- **Office of profit** is not defined in the Constitution; the **President** (for MPs) or **Governor** decides, on the **Election Commission's** opinion PYQ 2015
- Cabinet members can come from **either House** (the statement "Cabinet only from the Lower House" is wrong).

Likely ask: Who forms new states, and with which majority.

Procedures and money

- **Zero Hour**: right after Question Hour, **12 noon**; an Indian invention PYQ ×3; it lasts **at most one hour** PYQ 2015, 2021
- **Guillotine** = closing debate and putting all remaining demands to vote.
- **Cut motion** = budget.
- The government moves a **confidence motion** PYQ 2006
- A **no-confidence motion** needs **50 members** to support it PYQ 2000, 2006
- **Quorum: one-tenth** of the House PYQ ×2
- An MP absent for **60 days** without permission can lose the seat PYQ 2018
- **Joint sitting: Article 108**, called by the **President**, chaired by the **Speaker**, only for **ordinary Bills**, passed by **simple majority present and voting** PYQ 1997, 2012, 2014, 2015, 2020 · ×5
- **Money Bill**: only in the **Lok Sabha**; the **Speaker** certifies it; the Rajya Sabha must return it in **14 days**; the Lok Sabha may reject Rajya Sabha's changes PYQ 1992, 2012, 2016, 2021 · ×4
- **Contingency Fund: Article 267** PYQ 2021; the President can spend from it **before** Parliament approves PYQ 1991
- **Vote on account** lets the government draw money for a short period before the budget passes.
- Bill stages: first reading → **second reading (general discussion)** → committee → report → third reading.

Not asked yet: **Question Hour** is the first hour (11–12) · **Starred questions** get an oral answer with supplementaries; **unstarred** get a written answer · A **private member's Bill** is moved by an MP who is not a minister.

Likely ask: Who presides over a joint sitting, or which Bill cannot start in the Rajya Sabha.

Complete list: motions and devices

Device	What it does
Question Hour	First hour; questions to ministers
Zero Hour	From 12 noon; matters raised without notice (not in the Rules)
Calling attention	Draws a minister's attention to an urgent matter; Indian innovation (1954)
Adjournment motion	Lok Sabha only; urgent public matter; needs 50 members
No-confidence motion	Lok Sabha only; needs 50 members; no reason needs to be given
Censure motion	Must state reasons; against a minister or the whole Council
Cut motions	Policy cut (to ₹1) · economy cut · token cut (₹100)
Guillotine	Puts all remaining budget demands to vote at once
Closure	Ends a debate
Short duration discussion	Two-hour discussion on an urgent matter

Complete list: kinds of Bills

Bill	Where it starts	Rajya Sabha's power	Majority	Joint sitting?
Ordinary	Either House	Equal; can hold up to 6 months	Simple	**Yes**
Money (Art. 110)	**Lok Sabha only**, with President's consent	Only suggests; 14 days	Simple	No
Financial (Art. 117)	Lok Sabha (first type)	Equal after introduction	Simple	Yes
Constitution Amendment (Art. 368)	Either House	Equal	Special	**No**

Joint sittings held so far: **Dowry Prohibition (1961), Banking Service Commission (1978), POTA (2002)**.

Lok Sabha and Speaker

- Speaker removed by a resolution passed by a **majority of all members** of the Lok Sabha; resigns to the **Deputy Speaker**.
- Casting vote only in a **tie**; a Deputy Speaker in the chair also votes only in a tie PYQ 2015

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- The **Lok Sabha Secretariat** is under the Speaker PYQ 1997
- **Pro-tem Speaker**: usually a **senior-most member**; takes the oath of new members until the Speaker is elected.
- **Speaker appoints the chairman of the Public Accounts Committee** PYQ 2014
- Up to **20 seats** for Union Territories PYQ 2018
- The **Attorney General** can speak in Parliament but not vote PYQ 2011
- **Chandra Shekhar** was a Lok Sabha member while PM PYQ 2015
- Lok Sabha term can be extended during a National Emergency **one year at a time**.
- **President prorogues** a session.
- Electoral rolls are prepared by the **Election Commission**, not the President.
- UP has **80 Lok Sabha** and **31 Rajya Sabha** seats, the largest in both PYQ 1995, 2000, 2017
- Wrong pairs asked: Bihar has **40** seats (not 42); the 7th Lok Sabha was elected in **1980** (not 1982).

Likely ask: Who presides, or how the Speaker is removed.

Rajya Sabha

- **Not dissolved** (Article 83); **one-third** of members retire every **two years** PYQ ×3
- Members are elected by **state MLAs** PYQ 1990
- First formed in **1952** (first sitting 13 May 1952).
- **Vice-President** is the Chairman and is **not a member** PYQ 1990, 1993 · ×2
- A Money Bill cannot start here.
- Special powers: **Article 249** (State-list subject in national interest, resolution valid **one year**) and **creating a new All India Service** (Article 312) PYQ 1997, 2018 · ×3
- **12 members are nominated** by the President (art, literature, science, social service).
- Minimum age **30**.
- **Vithalbhai Patel** was the first elected Indian Speaker of the Central Legislative Assembly (1925) PYQ 2007
- **Estimates Committee** is the largest committee and has **no Rajya Sabha member** PYQ 2010, 2020
- The **91st Amendment** capped ministers at **15%** of the Lok Sabha PYQ 2015
- The **61st Amendment** (1989) lowered the voting age to **18** PYQ 2000

Likely ask: Which power belongs only to the Rajya Sabha.

Complete list: Lok Sabha vs Rajya Sabha

Point	Lok Sabha	Rajya Sabha
Article	81	80
Maximum size	**550** (530 states + 20 UTs)	**250** (238 elected + 12 nominated)
Present size	**543**	**245** (233 + 12)
Elected by	People directly	State assembly MLAs (single transferable vote)
Term	**5 years**, can be dissolved	**Permanent**; members 6 years, one-third retire every 2 years
Minimum age	**25**	**30**
Presiding officer	**Speaker** (a member)	**Vice-President** as Chairman (not a member)
Money Bill	Starts here; final say	Only 14 days to suggest
No-confidence	Only here	Not possible
Special power	Council of Ministers answerable to it	Art. 249 and Art. 312

Complete list: seats of the biggest states

State	Lok Sabha	Rajya Sabha
Uttar Pradesh	**80**	**31**
Maharashtra	48	19
West Bengal	42	16
Bihar	40	16
Tamil Nadu	39	18
Madhya Pradesh	29	11
Karnataka	28	12

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State	Lok Sabha	Rajya Sabha
Gujarat	26	11

Complete list: committees and firsts

Item	Fact
Public Accounts Committee	22 members (15 LS + 7 RS); chairman from the opposition by convention; examines CAG reports
Estimates Committee	30 members, **all from Lok Sabha**
Committee on Public Undertakings	22 members (15 LS + 7 RS)
First Lok Sabha	1952; first Speaker **G.V. Mavalankar**
First Rajya Sabha Chairman	**S. Radhakrishnan**
First woman Speaker	**Meira Kumar** (2009)
Lok Sabha elections	1st 1951–52 · 7th **1980** · 9th 1989 · 11th 1996 · 13th 1999 · 17th 2019 · **18th 2024**
Sessions	Budget, Monsoon, Winter; gap between two sessions **not more than six months**

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Section E: Environment

2 chapters

Chapter 15: Protected Areas (84 PYQs · 19.8% of Environment)

PYQ 2021 · ×4 = UPPCS asked this in 2021; asked 4 times in all (different years) · years inside a fact (like 1784) are part of the fact

The one idea: four kinds of protected land, from loose to strict. UPPCS asks **where it is and which animal lives there**. Pure matching, no theory.

The four types

- **Wildlife Sanctuary**: some human activity (like grazing) can be allowed.
- **National Park**: strictest; no human activity inside.
- **Tiger Reserve**: a **core** (critical tiger habitat) plus a **buffer**.
- **Project Tiger began in 1973** PYQ 2002; its aim: save the Indian tiger from extinction PYQ 1994
- **Biosphere Reserve**: core, buffer and transition zones; made to **preserve genetic diversity**.
- Areas are chosen on **species richness, diversity and the species–area relationship**.

> **Not asked yet:** The **Wildlife (Protection) Act 1972** creates national parks and sanctuaries; **conservation reserves** and **community reserves** were added in 2002 · **Eco-sensitive zones** are buffer belts notified around parks and sanctuaries.

Likely ask: What a biosphere reserve preserves (genetic diversity).

Uttar Pradesh

- **Dudhwa National Park → Lakhimpur Kheri** PYQ ×2
- Rhinos are being **rehabilitated** in Dudhwa.
- **Katarniaghat** sanctuary was set up in **1975**.
- **Chandraprabha → Chandauli**.
- **Bakhira bird sanctuary → Basti** (the area is now in Sant Kabir Nagar district).
- **Amangarh** (Bijnor) is a UP tiger reserve (asked as "not in Madhya Pradesh").
- **National Chambal Sanctuary** spans **MP, Rajasthan and UP**, not Haryana PYQ 2020

> **Not asked yet:** **Ranipur, Chitrakoot** became UP's **fourth tiger reserve in 2022**.

Likely ask: Sanctuary → district.

Complete list: UP protected areas with districts

UP has **one national park** (Dudhwa) and **four tiger reserves**.

Protected area	Type	District
Dudhwa	National park + tiger reserve (1987)	Lakhimpur Kheri
Pilibhit	Tiger reserve (2014)	Pilibhit
Amangarh	Tiger reserve (2012), buffer of Corbett	Bijnor
Ranipur	Tiger reserve (2022)	Chitrakoot
Katarniaghat	Sanctuary (1975), part of Dudhwa TR	Bahraich
Kishanpur	Sanctuary, part of Dudhwa TR	Lakhimpur Kheri
Chandraprabha	Sanctuary	Chandauli
Kaimoor	Sanctuary	Mirzapur, Sonbhadra
Hastinapur	Sanctuary	Meerut and nearby districts
National Chambal	Sanctuary (gharial, dolphin)	Agra, Etawah
Sohagibarwa	Sanctuary	Maharajganj
Suhelwa	Sanctuary	Shravasti, Balrampur
Mahavir Swami	Sanctuary	Lalitpur
Okhla	Bird sanctuary	Gautam Buddha Nagar
Nawabganj (Shaheed Chandra Shekhar Azad)	Bird sanctuary	Unnao

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Protected area	Type	District
Bakhira	Bird sanctuary	Sant Kabir Nagar
Samaspur	Bird sanctuary	Rae Bareli
Saman	Bird sanctuary	Mainpuri
Sandi	Bird sanctuary	Hardoi
Patna	Bird sanctuary	Etah
Lakh Bahosi	Bird sanctuary	Kannauj
Surha Tal	Bird sanctuary	Ballia
Sur Sarovar (Keetham)	Bird sanctuary	Agra
Parvati Arga	Bird sanctuary	Gonda

National parks of India

- First national park: **Jim Corbett** (1936, as Hailey National Park).
- Most national parks: **Madhya Pradesh** PYQ 2008 · ×2
- **Silent Valley, Keralam**: lion-tailed macaque, richest biodiversity PYQ ×3
- **Kaziranga → rhinoceros** PYQ 2012
- **Wild ass sanctuary → Gujarat** (Little Rann of Kutch) PYQ 2010
- **Siberian crane → Rajasthan** (Keoladeo, Bharatpur) PYQ 1996
- **Keibul Lamjao** floats on **Loktak lake**, Manipur.
- **Dachigam → Hangul** (Kashmir stag) PYQ 2018 · ×2
- **Eravikulam → Nilgiri tahr**.
- **Indravati → Chhattisgarh (Bastar)** PYQ ×2
- **Valley of Flowers → Uttarakhand**, home of Brahma Kamal.
- **Dhoopgarh peak → Satpura NP** PYQ RO 2021
- Marine national parks: **Gulf of Mannar** PYQ 2014, 2015, **Gulf of Kutch**.
- **Rani Jhansi Marine NP** (Andaman) was set up in **1996** PYQ 2017
- **Kanchenjunga NP** became a World Heritage Site in **2016**.
- Wrong pairs asked: Bhitarkanika is in **Odisha** (not Jharkhand), Simlipal in **Odisha** (not MP), Bandipur in **Karnataka** (not Tamil Nadu), Pin Valley in **Himachal** (not J&K), Periyar is famous for **elephants** (not hangul).

Likely ask: Which park–state pair is NOT correctly matched.

Complete list: national parks, state-wise (main ones)

India has about **106** national parks. Most: **Madhya Pradesh**, then **Andaman & Nicobar**.

State	National parks
Uttar Pradesh	Dudhwa
Uttarakhand	Jim Corbett, Rajaji, Nanda Devi, Valley of Flowers, Gangotri, Govind
Madhya Pradesh	Kanha, Bandhavgarh, Panna, Pench, Satpura, Madhav, Sanjay, Kuno (cheetahs), Van Vihar, Fossil (Mandla), Dinosaur Fossil (Dhar)
Rajasthan	Ranthambore, Keoladeo (Bharatpur), Sariska, Desert, Mukundra Hills
Gujarat	Gir (Asiatic lion), Velavadar (blackbuck), Marine NP (Gulf of Kutch), Vansda
Maharashtra	Tadoba, Sanjay Gandhi (Borivali), Gugamal, Navegaon, Chandoli, Pench
Chhattisgarh	Indravati, Kanger Valley, Guru Ghasidas
Jharkhand	Betla
Bihar	Valmiki
Odisha	Simlipal, Bhitarkanika
West Bengal	Sundarbans, Buxa, Jaldapara, Gorumara, Neora Valley, Singalila
Assam	Kaziranga (rhino), Manas, Nameri, Orang, Dibru-Saikhowa, Dehing Patkai, Raimona
Arunachal Pradesh	Namdapha, Mouling
Manipur	Keibul Lamjao (floating, Loktak), Sirohi
Meghalaya	Nokrek, Balphakram
Mizoram	Murlen, Phawngpui (Blue Mountain)
Nagaland	Intanki

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State	National parks
Tripura	Clouded Leopard, Bison (Rajbari)
Sikkim	Khangchendzonga
Karnataka	Bandipur, Nagarhole (Rajiv Gandhi), Bannerghatta, Kudremukh, Anshi
Keralam	Silent Valley, Eravikulam (Nilgiri tahr), Periyar, Mathikettan Shola, Anamudi Shola, Pambadum Shola
Tamil Nadu	Gulf of Mannar (marine), Guindy, Mudumalai, Mukurthi, Anamalai (Indira Gandhi)
Andhra Pradesh	Papikonda, Sri Venkateswara, Rajiv Gandhi (Rameswaram)
Telangana	Kasu Brahmananda Reddy, Mrugavani, Mahavir Harina Vanasthali
Goa	Mollem (Bhagwan Mahavir)
Haryana	Sultanpur, Kalesar
Himachal Pradesh	Great Himalayan, Pin Valley, Inderkilla, Khirganga, Simbalbara
Jammu & Kashmir	Dachigam (hangul), Kishtwar, Salim Ali
Ladakh	Hemis (snow leopard)
Andaman & Nicobar	Mahatma Gandhi Marine (Wandoor), Rani Jhansi Marine, Campbell Bay, Galathea Bay, Saddle Peak, Mount Harriet

Tiger and elephant reserves

- **World Tiger Summit 2010: St Petersburg**, Russia PYQ 2011
- Largest critical tiger habitat: **Nagarjunasagar–Srisailam**.
- **Pench** lies in two states.
- **Dampa → Mizoram** · **Sariska → Rajasthan** · **Buxa → West Bengal** (not Bihar) · **Rajaji** declared a tiger reserve.
- Tiger census 2018: India has about **70%** of the world's tigers; about **30%** live outside tiger reserves.
- **International Tiger Day: 29 July**.
- **Project Elephant: 1992** PYQ ×2; it cares for wild and captive elephants.
- **Kameng Elephant Reserve → Arunachal Pradesh**.

Likely ask: Tiger reserve → state.

Complete list: tiger reserves, state-wise

India has **58** tiger reserves. The newest is **Madhav, MP (58th, 2025)**. Most: **Madhya Pradesh (9)**.

State	Tiger reserves
Madhya Pradesh (9)	Kanha, Bandhavgarh, Panna, Pench, Satpura, Sanjay-Dubri, Veerangana Durgavati (2023), Ratapani (2024), Madhav (2025)
Maharashtra (6)	Melghat, Tadoba-Andhari, Pench, Sahyadri, Nawegaon-Nagzira, Bor
Karnataka (5)	Bandipur, Nagarhole, Bhadra, Dandeli-Anshi (Kali), Biligiri Ranganatha Temple
Tamil Nadu (5)	Kalakad-Mundanthurai, Anamalai, Mudumalai, Sathyamangalam, Srivilliputhur-Megamalai
Rajasthan (5)	Ranthambore, Sariska, Mukundra Hills, Ramgarh Vishdhari, Dholpur-Karauli (2023)
Assam (4)	Manas, Kaziranga, Nameri, Orang
Chhattisgarh (4)	Achanakmar, Udanti-Sitanadi, Indravati, Guru Ghasidas-Tamor Pingla (2024)
Uttar Pradesh	Dudhwa, Pilibhit, Amangarh (buffer of Corbett), Ranipur (2022)
Arunachal Pradesh (3)	Namdapha, Pakke, Kamlang
Uttarakhand (2)	Corbett, Rajaji
West Bengal (2)	Sundarbans, Buxa
Odisha (2)	Simlipal, Satkosia
Telangana (2)	Amrabad, Kawal
Keralam (2)	Periyar, Parambikulam
Andhra Pradesh	Nagarjunasagar-Srisailam (largest)
Bihar	Valmiki
Jharkhand	Palamau
Mizoram	Dampa

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Biosphere reserves

- **Nokrek → Garo Hills, Meghalaya** PYQ 2014 · ×3
- **Nilgiri** is spread over **three states**.
- **Nanda Devi → Uttarakhand** (also a World Heritage Site) PYQ 2008
- Wrong pair asked: **Khangchendzonga is in Sikkim**, not Himachal PYQ 2018
- **Cold Desert (16th) → Himachal Pradesh**.
- **Manas** is in Assam (not Meghalaya).
- **Rann of Kutch** is not in the UNESCO network.
- Largest UNESCO-listed (as asked): **Gulf of Mannar**.

Likely ask: Biosphere reserve → state.

> **Complete list: all 18 biosphere reserves**

★ = in UNESCO's world network. First: **Nilgiri (1986)**. Largest by area: **Kachchh**.

#	Biosphere reserve	Year	State
1	**Nilgiri ★**	1986	Tamil Nadu, Keralam, Karnataka
2	**Nanda Devi ★**	1988	Uttarakhand
3	**Nokrek ★**	1988	Meghalaya
4	**Great Nicobar ★**	1989	Andaman & Nicobar
5	**Gulf of Mannar ★**	1989	Tamil Nadu
6	**Manas**	1989	Assam
7	**Sundarban ★**	1989	West Bengal
8	**Simlipal ★**	1994	Odisha
9	**Dibru-Saikhowa**	1997	Assam
10	**Dehang-Dibang**	1998	Arunachal Pradesh
11	**Pachmarhi ★**	1999	Madhya Pradesh
12	**Khangchendzonga ★**	2000	Sikkim
13	**Agasthyamalai ★**	2001	Keralam, Tamil Nadu
14	**Achanakmar-Amarkantak ★**	2005	Madhya Pradesh, Chhattisgarh
15	**Kachchh**	2008	Gujarat
16	**Cold Desert ★**	2009	Himachal Pradesh
17	**Seshachalam**	2010	Andhra Pradesh
18	**Panna ★**	2011	Madhya Pradesh

13 are in the UNESCO network: the first was Nilgiri (2000), Panna joined in 2020, and Cold Desert in 2025.

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Chapter 16: Pollution (73 PYQs · 17.2% of Environment)

PYQ 2021 · ×4 = UPPCS asked this in 2021; asked 4 times in all (different years) · years inside a fact (like 1784) are part of the fact

The one idea: a pollutant is either **broken down by nature** or not. Then ask: **air, water or noise**, and what it does to the body.

Biodegradable or not

- The most asked idea in this chapter PYQ ×9
- **Biodegradable: sewage, wool, rubber**.
- **Not: DDT, PVC, pesticides**.
- Sewage is biodegradable PYQ 2014; **plastic** takes the longest to decay and bacteria cannot break it PYQ 2008, 2021
- **DDT** builds up along the food chain: **aquatic plants → snail → fish → bird**.
- Human-made pollutants are called **anthropogenic** PYQ 2005, 2019
- **Incinerators** burn waste PYQ 2018

> **Not asked yet:** This build-up is called **biomagnification**: the poison gets more concentrated at each higher level of the food chain.

Likely ask: Which one is (or is not) biodegradable.

Complete list: biodegradable or not

Biodegradable (nature breaks it down)	Non-biodegradable (stays for years)
Sewage, kitchen waste, paper, wood, cotton, wool, leather, natural rubber, cow dung	DDT and other pesticides, plastics (PVC, polythene), glass, aluminium cans, mercury, lead, radioactive waste

Air pollution

- **Carbon monoxide** is the most dangerous; it joins **haemoglobin** faster than oxygen PYQ 2013, 2016 · ×5
- Cigarette smoke: **CO and benzene** PYQ 2015
- **Smog** is a secondary pollutant; **sulphur dioxide** is primary PYQ 2014
- Smog comes from **oxides of nitrogen and sulphur** PYQ 2019
- **Photochemical smog** always contains **ozone**; it forms when sunlight acts on hydrocarbons and nitrogen oxides PYQ ×3
- **Acid rain = sulphur dioxide + nitrogen oxides** PYQ 2001, 2003, 2013 · ×5
- **Norway** gets heavy acid rain from other countries' smoke PYQ 2000
- **Fly ash** comes from **coal** in thermal power plants PYQ 2014, 2021 · ×2
- **Lead** is the most toxic metal in car exhaust PYQ 2006
- **Transport** is the biggest source in cities.
- **Lichen** is the indicator of air pollution PYQ 2012, 2013, 2019 · ×3
- **Bhopal gas = methyl isocyanate** PYQ 2001, 2008
- **Euro norms** control vehicle emissions.
- **Hydrogen** pollutes least.

> **Not asked yet: PM2.5**, dust finer than 2.5 micrometres, enters the blood through the lungs.

Likely ask: Which gas causes acid rain, or which pollutant binds haemoglobin.

Complete list: air pollutants

Pollutant	Main source	Effect
Carbon monoxide (CO)	Vehicle exhaust, burning	Binds haemoglobin, cuts oxygen to the body
Sulphur dioxide (SO_2)	Coal, thermal power plants	Acid rain, breathing problems; lichens die
Nitrogen oxides (NOx)	Vehicles, power plants	Acid rain, photochemical smog
Ozone (ground level)	Secondary: sunlight + NOx + hydrocarbons	Smog, eye and lung irritation
PAN (peroxyacetyl nitrate)	Secondary, part of smog	Eye irritation, harms plants
PM10 / PM2.5	Dust, construction, stubble burning	Lung and heart disease
Lead	Old leaded petrol, batteries	Brain and nerve damage
Methane	Landfills, paddy fields, cattle	Greenhouse gas
CFCs	Old fridges, sprays	Ozone layer depletion

- **Primary** pollutants come out directly: CO, SO_2, NO, dust.
- **Secondary** pollutants form in the air: ozone, PAN, smog, acid rain.
- **NAAQS** (2009) covers **12 pollutants**.
- The **Air Quality Index** (2014) uses **8 pollutants** and has **6 bands**: Good, Satisfactory, Moderately polluted, Poor, Very poor, Severe.

Water pollution

- **BOD** is the test of water pollution; **high BOD = sewage** PYQ 2007 · ×2
- River pollution is measured through **dissolved oxygen** PYQ 2011
- **Eutrophication**: extra nutrients → algae bloom → oxygen falls PYQ 2019
- **Arsenic** in groundwater: **West Bengal** and **Bangladesh** PYQ 2012, 2015 · ×3
- **Fluoride** → **knock-knee syndrome**.
- **Damodar** is called a **"biological desert"** PYQ 2012
- The **leather industry** releases the most polluting effluent PYQ 2005
- **Ganga Action Plan** started in **1985**.

> **Not asked yet: Microplastics**, plastic bits under 5 mm, now found in water and food.

Likely ask: What high BOD shows.

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Complete list: water pollutants and diseases

Pollutant	Disease or effect
Mercury	Minamata disease (Japan)
Cadmium	Itai-itai disease (Japan)
Arsenic	Black foot disease, skin cancer
Nitrate	Blue baby syndrome
Fluoride (too much)	Fluorosis, knock-knee
Lead	Brain damage in children
Phosphates + nitrates (fertiliser runoff)	**Eutrophication**: algae bloom, oxygen falls, fish die
Sewage	High BOD; cholera, typhoid, hepatitis A

- **Indicators** of water pollution: *E. coli* bacteria and the Tubifex worm show sewage.

Noise pollution

- Unit: **decibel**.
- Above **80 dB** is hazardous.
- **Jet planes** cause the most noise PYQ 2018
- **Green muffler** = rows of trees against noise PYQ ×2
- **Moradabad** was named the **second noisiest city** in UNEP's Frontiers Report 2022.

Likely ask: What a green muffler protects against.

Complete list: permitted noise levels (Noise Rules 2000)

Area	Day (6 am–10 pm)	Night
Industrial	75 dB	70 dB
Commercial	65 dB	55 dB
Residential	55 dB	45 dB
Silence zone (100 m around hospitals, schools, courts)	50 dB	40 dB

Likely ask: Which colour category does not exist.

Laws and categories

- **Environment (Protection) Act: 1986**.
- Industries by pollution load (March 2016): **Red, Orange, Green, White**.
- **Blue** is not a category.
- **Landfills** mostly release **methane**.

Complete list: laws and programmes

Year	Law or programme
1972	Wildlife (Protection) Act
1974	**Water** (Prevention and Control of Pollution) Act · Central Pollution Control Board set up
1981	**Air** (Prevention and Control of Pollution) Act
1985	Ganga Action Plan
1986	**Environment (Protection) Act**, after the Bhopal gas tragedy (1984)
2000	Noise Pollution (Regulation and Control) Rules
2010	**National Green Tribunal** Act
2014	Namami Gange · Air Quality Index
2019	National Clean Air Programme (NCAP)

Industry colour (2016)	Pollution index	Meaning
Red	60 and above	Most polluting
Orange	41–59	Moderately polluting

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Industry colour (2016)	Pollution index	Meaning
Green	21–40	Less polluting
White	20 and below	Almost no pollution; no consent needed

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Next pages: one Gap Sheet page and one Repeat List page from each of the 13 subjects. Green = asked in UPPCS (×n = how many times), red = not asked yet, orange = asked in other exams.

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Ancient History 14 topics

Green: asked in UPPCS (×n = how many times) | Red: not asked yet, highest chance of a new question | Orange: asked in UPSC / other PCS, not yet in UPPCS

Prehistory and Archaeological Cultures

Stone Age labels describe tools and ways of living, not one date for all regions. Hunting and gathering dominated the Palaeolithic; microliths mark the Mesolithic; farming and polished tools are major Neolithic features.

TOOLS AND CHRONOLOGY

Lower Palaeolithic handaxes Handaxes and cleavers are characteristic tools.

Middle Palaeolithic flakes Flake tools became important.

Upper Palaeolithic blades Blade and burin tools are characteristic.

Mesolithic microliths Small stone tools were often fitted into composite tools. ×5

Neolithic farming Cultivation, animal keeping and polished stone axes are key features. ×3

Chalcolithic technology Copper and stone tools were used together.

Megalithic burials Many large-stone monuments mark burials; southern examples often contain iron objects.

Three-Age classification C. J. Thomsen classified antiquities into Stone, Bronze and Iron Ages.

Quern and grinding stone Grinding tools help identify food-processing activity at settlements.

Stratigraphy and sequence In undisturbed deposits, lower archaeological layers normally predate upper layers.

Radiocarbon dating Carbon-14 dating estimates the age of organic remains, not stone tools directly.

Likely ask: An age → tool match (microliths = Mesolithic) or an order of the ages.

SITES OUTSIDE UP

Bhimbetka rock shelters Raisen, MP; rock paintings; V. S. Wakankar found their prehistoric value in 1957 (asked 2020); World Heritage site. ×2

Mehrgarh early farming Balochistan, Pakistan; early farming and herding settlement. ×5

Burzahom pit dwellings Kashmir; pit dwellings and human burials with dogs. ×2

Gufkral Neolithic settlement Kashmir; pit dwellings are known here. ×2

Bagor animal keeping Rajasthan, on the Kothari; earliest evidence of animal domestication in the Mesolithic (asked 2018), with Adamgarh (MP). ×3

Adamgarh animal keeping Madhya Pradesh; Mesolithic animal domestication evidence. ×2

Navdatoli Chalcolithic settlement Madhya Pradesh, near the Narmada; excavated by H. D. Sankalia. ×2

Inamgaon settlement Maharashtra; a major Chalcolithic site of the Jorwe culture.

Pallavaram handaxe discovery Robert Bruce Foote found a Palaeolithic handaxe here in 1863.

Langhnaj Gujarat; Mesolithic site with burials and microliths.

Brahmagiri Karnataka; Neolithic–Megalithic site dug by Mortimer Wheeler.

Palaeolithic site → state Nevasa – Maharashtra · Isampur – Karnataka · Didwana – Rajasthan · Gudiyam cave – Tamil Nadu.

Sanghol Punjab (Fatehgarh Sahib); late Harappan and Kushan remains.

Likely ask: "Which site gives evidence of X?" (Bagor animal keeping 2018; who found Bhimbetka 2020).

UP ARCHAEOLOGICAL EVIDENCE

Lahuradewa rice evidence Sant Kabir Nagar; an important early rice site in the Ganga plain.

Mahadaha bone ornaments Pratapgarh; Mesolithic burials and bone ornaments. ×3

Damdama multiple burial Pratapgarh; three skeletons were found in one grave.

Hastinapur pottery sequence Meerut; important for Ochre Coloured Pottery and Painted Grey Ware studies. ×6

Atranjikhera iron evidence Etah; important early iron and Painted Grey Ware evidence.

Sarai Nahar Rai Pratapgarh; Mesolithic graves, the first such site found in the Ganga plain.

Chopani Mando Belan valley, Prayagraj; Mesolithic huts and some of the earliest pottery.

Koldihwa Belan valley, Prayagraj; Neolithic rice (with Lahuradewa, Sant Kabir Nagar).

Lekhahia Mirzapur, Vindhya rock shelters; the most Mesolithic human skeletons. ×2

First grain and rice Barley was the first grain used; the oldest rice comes from the Vindhya region (Koldihwa, Lahuradewa). ×3

Likely ask: UP site → find: burials at Sarai Nahar Rai, Mahadaha, Damdama (2016); rice at Lahuradewa and Koldihwa.

Microliths came when people began hunting small animals and fishing after the Ice Age; that is why the Mesolithic is a bridge to farming.

⚠ Mehrgarh (Pakistan) is the earliest farming site, not Burzahom. Lahuradewa (UP) gives the earliest rice in the subcontinent.

Harappan Sites and Urban Life

Harappan cities combined planned streets, drainage, craft production and exchange. Mature Harappan urbanism is usually dated about 2600–1900 BCE; earlier and later phases must be kept separate.

SITES AND DISCOVERIES

Harappa on Ravi Pakistan; excavations begun by Daya Ram Sahni in 1921; cemetery R-37. ×36

Mohenjo-daro Great Bath Sindh, Pakistan; R. D. Banerji, 1922; Great Bath, Great Granary, bronze dancing girl, "priest-king" bust. ×10

Kalibangan ploughed field Rajasthan, on the Ghaggar; furrows and fire altars are notable finds. ×21

Lothal crafts and basin Gujarat, on the Bhogava; S. R. Rao, 1955; bead factory, dockyard basin, boat model (with Mohenjo-daro, asked 2022). ×20

Dholavira water management Khadir island in Kachchh, Gujarat; reservoirs and a three-part urban layout. ×8

Rakhigarhi settlement Haryana; one of the largest Harappan settlements. ×5

Chanhudaro bead workshops Sindh; important craft centre excavated by E. J. H. Mackay. ×4

Banawali settlement Haryana (Fatehabad), on the Ghaggar; terracotta plough model and barley. ×4

Ropar river location Punjab; on the Sutlej. ×5

Manda northern site Jammu region; on the Chenab. ×3

Shortugai trade outpost Afghanistan; Harappan settlement connected with long-distance exchange.

Kot Diji Sindh, Pakistan; pre-Harappan fortified town. ×5

Surkotada Kachchh, Gujarat; bones taken to be of a horse (identity doubtful). ×2

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Ancient History 61 themes

Architecture in Ancient India ×28

×2 Matangesvara Temple at Khajuraho is dedicated to → **Shiva**

×2 Which temple is an example of rockcut architecture → **Kailasa Temple, Ellora**

×2 Angkor Wat Vishnu Temple is located in → **Cambodia**

×2 Who built the Konark Sun Temple → **Narasimhadeva I (Eastern Ganga)**

×1 The Temple of Kandariya Mahadev at Khajuraho was built by → **Chandela**

×1 The temples of Khajuraho are related with → **Hindu and Jain**

×1 The pinnacle of which of the following is built in Dravida style → **Teli Temple of Gwalior**

×1 Jain temple of Abu is made of → **Marble**

×1 The Elephanta caves were mainly sculptured for which of the following devotees → **Shaiva**

×1 The caves and rock-cut temples at Ellora represent only → **Hindus, Buddhists, and Jains**

×1 Which among these is known as 'Black Pagoda' → **Konark Sun Temple**

×1 Which Sun Temples is located in Patan, Gujarat → **Modhera**

×1 Which is the largest and the tallest surviving temple in Orissa → **Lingaraja Temple**

×1 The Temple of Bhubaneswara and Puri was built in → **Nagara style**

×1 Where is Borobudur Stupa situated → **Java**

×1 The idols of Lord Jagannath, Subhadra and Balbhadra in sanctum sanctorum at Jagannath Puri Temple are made up of → **Wood**

×1 'Gopuram' the temples of Dravidian style stands for → **Ornamental and multi-storied structures upon the gateways**

×1 Rock-cut temples of Mahabalipuram were built by → **Pallavas**

×1 Which Rath temples is the smallest → **Draupadi Rath**

×1 Which place is known as the village of temples → **Maluti**

×1 Between which of the following was the ancient town of Takshashila located → **Indus and Jhelum**

×1 Sonagiri, the highest among 103 Jain temples, lies in the proximity of → **Datia**

×1 Dilwara Jain temple is situated at → **Mount Abu**

×1 Naimisharanya famous pilgrimage is located in which of the following district → **Sitapur**

Rigvedic and Post Vedic Period ×26

×2 Where should be the location of Vedic river Kubha → **Afghanistan**

×2 'Gopatha Brahmana' is associated with → **Atharvaveda**

×2 The priest associated with King Videgha Madhava referred in Shatapatha Brahmana was → **Rishi Gautama Rahugana**

×1 There is similarity in Rig-Veda and Avesta. Avesta is associated with which region → **Iran**

×1 Which is a Samhita of Shukla Yajurveda → **Vajasaneyi**

×1 Collection of which of the followings is based on Rig-Veda → **Sam Veda**

×1 Rig-Vedic religion was → **Polytheistic**

×1 The text that mentions the Purushamedha sacrifice → **Shatapatha Brahmana**

×1 Which river is called as Mate-tama, Devi-tama, and Nadi-Tama in Rig-Veda → **Saraswati**

×1 The famous battle of 'Ten Kings' as described in the Rigveda was fought on the bank of → **Parushni**

×1 Nishka during ancient India stands for → **Gold jewelry**

×1 In which Upanishad Yama Nachiketa conversation on spiritual knowledge is found → **Kathopanishad**

×1 An inscription of 14th century B.C. which describes the Vedic Gods, has been found in → **Boghaz-Koi**

×1 The national motto of India, 'Satyameva Jayate' inscribed below the Emblem of India is taken from → **Mundakopanishad**

×1 Which Vedic text talks about Salvation → **Upanishad**

×1 In which of the following Upanishad there is earliest mention about pessimism → **Maitrayani**

×1 Reference of which of the following rivers in Rig-Veda indicates that Afghanistan was a part of early Vedic territory → **Kubha & Suvastu**

×1 Which Vedic deity was the priest of the gods → **Brihaspati**

×1 Which were regarded as the hub of Aryan culture during the later Vedic Period → **Kuru, Panchala**

×1 The most ancient musical instrument → **Veena (Lute)**

×1 King Ashwapati during Upanishad period was the ruler of → **Kaikaya**

×1 The word Kausheya stands for → **Silk**

×1 The text that gives measurements of sacrificial altars → **Shulva Sutra**

India's Prehistoric Culture ×24

×5 The Roman settlement has been found → **Arikamedu**

×2 From which of the following site of middle stone age bone made ornaments are found → **Mahadaha**

×2 In which state Navdatoli is located → **Madhya Pradesh**

×1 From which rock cave of India most paintings are found → **Bhimbetka**

×1 Robert Bruce Foote, who discovered the first archaeological equipment in India, was a → **Geologist**

×1 Which sites provides evidence of domestication of animals in the Mesolithic period → **Bagor**

×1 The cultivation of food grains started in → **Neolithic age**

×1 Megaliths (large stone monuments) were → **Burial places**

×1 Mound of ash is related to which Neolithic site → **Sanganakallu**

×1 Dogs were cremated in human burials at → **Burzahom**

×1 In reference to the Mesolithic period, the place from where the evidence of animal husbandry is found → **Adamgarh**

×1 From where, the ancient most evidence of paddy cultivation in Ganga valley is found → **Lahuradewa**

×1 Three human Skeletons from the same grave is found from → **Damdama**

×1 From which rock formation of the Vindhya region most of the human skeletons are found → **Lekhahiya**

×1 Who excavated Navdatoli → **H.D. Sankalia**

×1 Garrie Pottery (OCP) was named in → **Hastinapur**

×1 The ancient most evidence of the practice of iron metal is found from the excavation of which site of India → **Atranjikhera**

×1 From the contents of the Copenhagen Museum a triangular division of the stone, Bronze and Iron Age was done by → **Thomsen**

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Medieval History 13 topics

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Arab Invasion, Ghori and the Slave Dynasty

Invasions are asked as year and battle pairs (Tarain 1191/1192, Chandawar 1194); Slave rulers by "first to" facts and titles.

ARAB AND GHAZNAVID ADVANCE

Sindh conquest, 712 Muhammad bin Qasim defeated Dahir; he was an Arab commander.

Debal port campaign Debal was an early target of Qasim's Sindh campaign.

Umayyad context of Sindh Qasim's expedition took place under the Umayyad Caliphate.

Alp Tegin and Ghaznavid beginnings Alp Tegin established the Ghazni power base; Sabuktigin consolidated it.

Somnath raid, 1025–26 Mahmud attacked Somnath during Bhima I's rule in Gujarat. ×4

Tarikh-i-Yamini Al-Utbi recorded the history of Mahmud's reign. ×2

Muhammad bin Qasim Arab general, the first Muslim invader (Sindh, 712); Lane-Poole called the conquest "a triumph without results". ×5

Mahmud's 17 raids 1000–1027; he raided for wealth, not to set up Muslim rule in India (A–R: A true, R false).

Mahmud's bilingual coins Silver coins from Lahore (Mahmudpur) with a Sanskrit legend on one side.

Al-Biruni Came with Mahmud; Kitab-ul-Hind; first Muslim scholar to study the Puranas and to take the Gita to the Muslim world. ×9

Likely ask: One-liner on a first or a raid (first Muslim invader, Somnath 1025) or an A–R on why the Turks won (2018, 2024).

GHURID VICTORIES

Multan campaign, 1175 Muhammad Ghori's first Indian campaign targeted Multan.

Gujarat setback, 1178 Ghori's army was defeated in Gujarat before his later north Indian victories.

First Tarain, 1191 Prithviraj III defeated Muhammad Ghori.

Second Tarain, 1192 Ghori defeated Prithviraj III; this enabled expansion towards Delhi. ×4

Ghurid Lakshmi coins Some coins of Muhammad Ghori retained the Lakshmi type and Indian legends.

Bakhtiyar's Bengal conquest Bakhtiyar Khalji displaced Sena rule in parts of Bengal.

Prithviraj III The ruler known as Prithviraj Chauhan (Rai Pithora); called "the last sun of Indian glory". ×2

Likely ask: Battle → year → loser: Tarain I 1191, Tarain II 1192, Chandawar 1194.

UP BATTLE CONNECTION

Chandawar, 1194 Ghori defeated Jayachandra of Kannauj near present Firozabad. ×3

Likely ask: Chandawar (Firozabad) is the UP battle usually asked.

MAMLUK FOUNDATIONS

Aibak's accession, 1206 Qutbuddin Aibak began independent rule after Ghori's death. ×2

Iltutmish's Delhi capital Iltutmish firmly established Delhi as the Sultanate capital. ×2

Tanka and jital Iltutmish standardised the silver tanka and copper jital. ×4

Chahalgani elite The group of Forty Turkish nobles became influential under Iltutmish.

Caliphal recognition, 1229 Iltutmish received an investiture from the Abbasid caliph.

Mongol frontier, 1221 Chengiz Khan reached the Indus while pursuing Jalaluddin during Iltutmish's reign. ×3

Razia's rule, 1236–40 Razia was the woman Sultan of Delhi; Turkish nobles opposed her. ×2

Razia's death at Kaithal Razia was killed near Kaithal in 1240.

Balban's Blood and Iron Balban used stern punishment and central control to assert royal authority.

Tughril revolt in Bengal Balban suppressed his Bengal governor's rebellion. ×2

Sijda and paibos Balban promoted prostration and kissing the ruler's feet as court rituals. ×2

Nasiruddin Mahmud and Balban's deputyship Balban served as the powerful deputy before becoming Sultan in 1266.

Lakh Baksh title Qutbuddin Aibak was called Lakh Baksh for generosity.

Mint names on coins Iltutmish was the first Sultan to put the mint's name on coins.

Last Abbasid Caliph on coins First put on the coins of Alauddin Masud Shah.

Razia's fall Deposed by the Turkish nobles (the Forty), who resented her rule and her Abyssinian Yaqut.

Polo (chaugan) Brought by the Turks; Aibak died in a polo fall at Lahore (1210). ×3

Turkish nobility Most Sultanate amirs and Sultans were Turks.

Likely ask: "Who was called..." titles (Lakh Baksh, slave of a slave) and Sultan → coin or institution.

UP INSCRIPTION

Balban at Garhmukteshwar A mosque inscription names Balban as the deputy of the caliph.

Likely ask: Inscription → ruler match.

💡 Turkish invasions succeeded because Rajput states were divided and fought alone, while the Turks had fast mounted archers (A–R asked 2018 and again 2024).

⚠ Aibak, not Iltutmish, was called Lakh Baksh; Iltutmish was "a slave of a slave". Shah Turkan was Iltutmish's wife (2023 pair).

Khalji Dynasty

The same order question came in 2022 and 2025. Learn every campaign with its year, the ruler defeated and who led it.

ALAUDDIN'S CAMPAIGNS IN ORDER

Devagiri raid, 1296 Alauddin, still governor of Kara, raided the Yadava capital before taking the throne.

Gujarat, 1299 Karna II (Vaghela) defeated by Ulugh Khan and Nusrat Khan; Somnath sacked; Kafur bought here. ×8

Jaisalmer, c. 1299 Bhati fort taken by Alauddin's generals; first in the 2025 order question.

Ranthambore, 1301 Hammir Dev Chauhan killed; Alauddin led it himself. ×2

Chittor, 1303 Ratan Singh (Guhila) defeated; Chittor renamed Khizrabad after Prince Khizr Khan. ×6

Warangal, 1303 (failed) Kakatiya army defeated Alauddin's force; asked 2017.

Malwa, 1305 Mahlak Deva defeated by Ain-ul-Mulk Multani.

Devagiri, 1307 Malik Kafur forced Yadava Ramachandra to submit; he then helped Kafur in the south. ×2

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Medieval History 44 themes

Sultanate and Mughal miscellany ×39

×4 Copper coin during Mughal period was called → **Dam**

×2 'Khalsa Panth' was founded by → **Guru Gobind Singh**

×2 Who had established astronomical Observatory in Delhi, called Jantar-Mantar → **Jaisingh II**

×2 Who were Karori during Mughal period → **Land revenue officials**

×2 Who was the head of military in Mughal period → **Mir Bakhshi**

×2 A collection of dialogues between Kabir and Dharamdas is titled → **Amarmul**

×1 Who gave the title 'Dilawar Khan' to Husayan Ghuri, the founder and ruler of Malwa → **Firoz Tughlaq**

×1 Modern name of the ancient capital of Hoysalas is → **Halebidu**

×1 At which of the following place in India had Portuguese constructed their first fort → **Cochin**

×1 During 13th & 14th century Indian peasants were not cultivating → **Maize**

×1 The real name of Genghis Khan was → **Temujin**

×1 The game of polo introduced in India by → **Turks**

×1 Prophet Hazrat Muhammad was born in → **570 AD**

×1 The maximum Number of Amirs and Sultans during Sultanate period belonged to which community → **Turk**

×1 Which term was used for land measurement during Sultanate period → **Masahat**

×1 What was the chief of military staff called during Sultanate period → **Ariz-e-Mumalik**

×1 To which Bandagan-i-khas denotes during the regime of Delhi Sultans → **Royal Slaves**

×1 Which was declared as his successor by Guru Nanak → **Lehna (Guru Angad)**

×1 The meaning of 'Deh' in Mughal period was → **Village/Mauja**

×1 Who were the 'King makers' during Mughal period → **The Sayyid brothers (Hussain Ali and Abdullah)**

×1 Who was the Commander in Chief of Maharana Pratap's Rajput Army in the 'Battle of Haldighati' → **Hakim Khan Sur**

×1 Which Sikh Gurus introduced 'Gurumukhi' → **Guru Angad**

×1 Mal (Mughal tax) was → **A tax charged on land**

×1 The real name of Banda Bahadur was → **Laxman Dev**

×1 Begum Samru had built a famous church in → **Sardhana**

×1 Who Ruhela sardar was the trustworthy of Ahmadshah Abdali → **Nazib Khan**

×1 Where is the tomb of Shuja-ud-Daulah situated → **Faizabad**

×1 Amritsar city in Punjab was established by → **Guru Ramdas**

×1 Mughals took Nowroz festival from → **Persians**

×1 Who was the founder of independent state of Hyderabad → **Chin Qilich Khan**

×1 Mughal rulers of medieval India were basically → **Chagatai Turk**

Akbar ×22

×3 At the Dargah of which Sufi saint Akbar used to visit frequently → **Moinuddin Chishti**

×2 'Yogavasistha' was translated into Persian by Nizamuddin Panipati in his reign.

×2 Which Jain Acharyas had been honoured by Akbar → **Hari Vijay Suri**

×1 Introduced the Mansabdari system.

×1 Issued coins with the figures of Rama and Sita and the Devanagari legend 'Rama-Siya'.

×1 Gave the land for the Golden Temple at Amritsar.

×1 A fatwa was issued against him from Jaunpur.

×1 Called an 'enlightened despot'.

×1 Ordered that a man should have only one wife; a second marriage only if the wife was barren.

×1 Contemporary of Queen Elizabeth I of England.

×1 Built the Buland Darwaza.

×1 Learnt Hindu music from Lala Kalawant.

×1 The poet Ghizali belonged to his era.

×1 Which historian had recognized 'Din-i-Ilahi' as a religion → **Abdul Qadir Badayuni**

×1 Akbar's Ibadat Khana was the place where → **inter-faith debates and discussions were held**

×1 The first person to be provided the full Grade of Diwan by Akbar was → **Muzaffar Khan Turbati**

×1 Who was killed by Akbar himself → **Adham Khan**

×1 Rajput dynasty with which Akbar had established marital relation at first was → **Kachhwahas**

Tughlaq Dynasty ×22

×4 Sultans of which dynasty ruled the country for the longest period → **Tughlaq**

×3 Who have given the particular about postal system of Sultanate period → **Ibn-e-Battuta**

×3 The first Indian ruler to organize pilgrimage at the expense of the state was → **Feroz Tughlaq**

×3 The city of Jaunpur was founded in the memory of → **Muhammad-Bin-Tughluq**

×2 Who brought two Ashoka Pillars to Delhi from Topra and Meerut → **Firuz Shah Tughluq**

×2 Public Works Department was primarily established by → **Firuz Shah Tughluq**

×1 Who translated 300 volumes of Sanskrit books collected by Firoz Tughlaq during the campaign of Nagarkot → **Aizuddin Khan**

×1 Isami, Barni and Ibn Batuta were contemporaries of which Muslim ruler → **Mohammed-Bin-Tughlaq**

×1 Order to transfer the capital from Delhi to Daulatabad was given by → **Sultan Muhammad Bin Tughlaq**

×1 During the rule of which dynasty Vizarat was on its zenith → **Tughluq**

×1 During which ruler Timur had invaded India and looted Delhi → **Nasiruddin Mahmud**

Bhakti and Sufi Movement ×21

×2 Who resided in Ajmer at first → **Sheikh Moinuddin Chishti**

×2 Who had founded Chishtiya sect in India → **Moinuddin Chishti**

×2 Which Sufi sect was against the music → **Naqshbandi**

×2 Vaishnavism in Kamarupa was popularised by → **Shankaradeva**

×1 The worship of incarnation of Vishnu 'Vitthoba' was popular in → **Maharashtra**

×1 Tulsidas was contemporary of → **Akbar and Jahangir**

×1 Find out among the following the author of Maasir-i-Alamgiri → **Saqi Mustaad Khan**

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Modern History 16 topics

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European Companies, Battles and Treaties

Order questions now dominate: learn every war and treaty with its year (2024 and 2025 asked them in order).

EUROPEAN COMPANIES

Vasco da Gama at Calicut (1498) Welcomed by the Zamorin ×3

Albuquerque took Goa (1510) From Bijapur; Almeida's 'blue water policy' before him ×3

Dutch: Masulipatnam (1605), Pulicat Spice trade; lost at Colachel (1741) and Bedara (1759) ×9

English: Hawkins and Thomas Roe at Jahangir's court First factory at Surat (1613) ×3

Golden Farman (1632) Sultan of Golconda to the English

Farrukhsiyar's Farman (1717) 'Magna Carta' of the Company: duty-free trade in Bengal ×2

Danes: Tranquebar (1620) and Serampore Sold to the English in 1845 ×2

French: Pondicherry (1674), Chandernagore François Martin; Dupleix later ×5

Order of arrival Portuguese (1498) → Dutch (1602 company, 1605 Masulipatnam) → English (1600 company, 1613 Surat) → Danes (1616) → French (1664).

English factories in order Masulipatnam 1611 → Surat 1613 → Fort St George, Madras 1639 → Bombay as dowry 1661/1668 → Calcutta (Job Charnock) 1690 → Fort William.

Battle of Swally (1612) English beat the Portuguese off Surat; Jahangir then allowed the Surat factory.

Battle of Bedara (1759) English defeated the Dutch in Bengal; Dutch power in India ended. ×2

English Company charter, 31 December 1600 Granted by Queen Elizabeth I; Akbar was the Mughal emperor then. ×2

French Company (1664) Formed under Louis XIV; his minister Colbert is called its founder. ×2

Portuguese in Bengal Hooghly (c. 1579, Akbar's farman) was the Portuguese factory in Bengal; Shah Jahan expelled them in 1632.

Pondicherry The Portuguese came first (16th century); the French made it their base from 1674 (François Martin). ×8

Portuguese territories till 1954–61 Goa, Daman, Diu and Dadra–Nagar Haveli; Pondicherry was French.

Peter Mundy English traveller under Shah Jahan (1628–34), not Portuguese.

Likely ask: Order of arrival or "first factory" one-liners; 2017 asked Dutch centres, 2023 Hawkins statements.

CARNATIC AND BENGAL

Carnatic Wars (1746–63) English vs French; Treaties of Aix-la-Chapelle (1748), Pondicherry (1755), Paris (1763) ×5

Battle of Wandiwash (1760) Eyre Coote beat Lally; French power ended ×4

Black Hole of Calcutta (1756) Holwell's story against Siraj-ud-Daulah

Battle of Plassey (1757) Clive beat Siraj-ud-Daulah; Mir Jafar betrayed ×4

Battle of Buxar (1764) Hector Munro beat Mir Qasim, Shuja-ud-Daulah, Shah Alam II ×9

Treaty of Allahabad (1765) Company got the Diwani of Bengal, Bihar, Orissa ×6

Dual government in Bengal (1765–72) Clive; ended by Warren Hastings ×2

Battle of Adyar (St Thome), 1746 Small French force beat the Nawab Anwar-ud-din's big army in the First Carnatic War.

Treaty of Aix-la-Chapelle (1748) Ended the First Carnatic War; Madras went back to the English (asked 2020 and 2025). ×4

Treaty of Pondicherry (1755) Ended the Second Carnatic War (1749–54); Dupleix was recalled. ×5

Treaty of Paris (1763) Ended the Third Carnatic War; French kept factories but could not fortify them.

Bengal Nawabs after Plassey Mir Jafar (1757) → Mir Qasim (1760, capital to Munger) → Mir Jafar again (1763) → Najm-ud-Daula (1765). ×3

Bengal's exports (early 18th century) Saltpetre, raw silk, sugar, opium and fine cotton cloth.

Likely ask: Battle → year → winner (Plassey, Buxar) and the Aix-la-Chapelle statements (2020, 2025).

MYSORE AND THE MARATHAS

First Anglo-Mysore War — Treaty of Madras (1769) Haidar Ali dictated terms ×6

Second Anglo-Mysore War — Treaty of Mangalore (1784) Haidar died in 1782; Tipu finished it ×5

Third Anglo-Mysore War — Treaty of Seringapatam (1792) Cornwallis; Tipu lost half his kingdom ×6

Fourth Anglo-Mysore War (1799) Wellesley; Tipu killed ×5

First Anglo-Maratha War — Treaty of Salbai (1782) Treaty of Surat (1775) with Raghunath Rao began it; Purandar (1776) ×4

Treaty of Bassein (1802) Peshwa Baji Rao II accepted the Subsidiary Alliance

Second Anglo-Maratha War (1803–05) Treaties of Deogaon (Bhonsle) and Surji-Arjangaon (Scindia) ×2

Third Anglo-Maratha War (1817–18) Battle of Koregaon; Peshwa's office abolished ×5

Battle of Porto Novo (1781) Eyre Coote defeated Haidar Ali in the Second Anglo-Mysore War. ×2

Treaty of Purandar (1776) First Anglo-Maratha War; Calcutta council made it, Bombay did not accept it.

Second Anglo-Maratha treaties Deogaon (Bhonsle, 1803) · Surji-Anjangaon (Sindhia, 1803) · Rajpurghat (Holkar, 1805); Assaye 1803.

Likely ask: Anglo-Mysore and Anglo-Maratha treaties in order (2022: Porto Novo in an order ladder).

SIKHS, BURMA, NEPAL, AFGHANISTAN

Treaty of Amritsar (1809) Ranjit Singh's border fixed at the Sutlej

First Anglo-Sikh War (1845–46) Mudki, Ferozeshah, Sobraon; Treaties of Lahore and Bhairowal ×4

Second Anglo-Sikh War (1848–49) Chillianwala, Gujrat; Punjab annexed

Anglo-Nepal War — Treaty of Sugauli (1816) Kumaon and Garhwal to the British ×4

Anglo-Burmese Wars (1824, 1852, 1885) Treaty of Yandabo 1826; Burma annexed 1886

Anglo-Afghan Wars — Treaty of Gandamak (1879) Second war; Durand Line 1893 ×4

Duleep Singh Last ruler of the Sikh empire; signed the annexation of Punjab on 29 March 1849 (Dalhousie); gave up the Kohinoor. ×2

Likely ask: Treaty → war: Sugauli 1816 places (2025), Lahore 1846, annexation 1849.

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Modern History 89 themes

Various Newspapers/ Magazines, Books and Their Authors/Editors ×42

×3 The book 'Springing Tiger' is the biography of → **Subhash Chandra Bose**

×3 In which one of the following jails, the book "Discovery of India" was written by Jawaharlal Nehru → **Ahmadnagar Fort Jail**

×2 'India Wins Freedom' is an autobiography of → **Maulana Abul Kalam Azad**

×2 The official historian of India's struggle for independence was → **S. N. Sen**

×2 Which one of the popular magazines of the revolutionary period criticized the Congress for various reasons → **Kaal**

×2 The novel 'Anand Math' is based on the story of → **Sanyasi Rebellion**

×2 The author of the book 'The Man Who Divided India' was → **Rafiq Zakaria**

×2 The book 'India's Struggle for Independence' was authored by → **Bipan Chandra**

×2 Who assumed title "Rashtrakavi" for emphatical cooperation in Indian independence struggle by his literary creations → **Maithili Sharan Gupta**

×2 Girija Devi, famous singer of Thumri belongs to → **Banaras Gharana**

×1 In which year the book 'Poverty and Un-British Rule in India' was published → **1901 A.D**

×1 The Vital-Vidhvansak, the first monthly journal to have the untouchable people as its target audience was published by ____ → **Gopal Baba Walangkar**

×1 The famous and favourite hymn sung by Gandhiji "Vaishnava Jana to Tene Kahiye" was composed by → **Narsinh Mehta who lived in 15th century**

×1 Who has authored "Kissa Radha Kanhaiya" → **Nawab Wajid Ali Shah**

×1 The first Hindi Newspaper 'Udant Martand (30th May, 1826) was published from → **Kolkata**

×1 Who was the editor of revolutionary paper 'Vande Mataram' → **Bhikaji Cama**

×1 Who started 'Bahishkarit Bharat' → **Bhim Rao Ambedkar**

×1 'Hind Swaraj' was written by Mahatma Gandhi in → **Gujarati**

×1 Aurobindo Ghosh authored → **The Life Divine**

×1 Who was the author of the play 'Nil Darpan' → **Dinabandhu Mitra**

×1 Who founded 'Indian Society of Oriental Art' → **Abanindra Nath Tagore**

×1 Who famous reformers wrote the books, Jnana Yoga, Karma Yoga and Raja Yoga → **Swami Vivekananda**

×1 The first newspaper published in India was → **Hicky's Bengal Gazette (1780)**

×1 The report 'Journey through the Kingdom of Oudh in the year 1849-50' was written by → **W. H. Sleeman**

×1 The editor of 'Swadeshwahini' was → **K. Ramakrishna Pillai**

×1 The memoir entitled 'Bapu : My Mother' was written by → **Manubehn**

×1 The book "Mountbatten and the Partition of India" was written by → **Larry Collins and Dominique Lapierre**

×1 The book 'Mother India' was written by → **Katherine Mayo**

×1 Who wrote the famous song 'Saare Jahan Se Achcha Hindustan Hamara' → **Sir Muhammad Iqbal**

×1 Who is the biographer of Mahatma Gandhi → **B. R. Nanda**

Start of Gandhian Period- From South Africa to Rowlatt Satyagraha ×39

×5 Where did Mahatma Gandhi adopt 'Seva Dharma' → **South Africa**

×3 During his stay in South Africa, Mahatma Gandhi published the following newspaper, its name was → **Indian Opinion**

×3 The prefix 'Mahatma' was added with the name of Gandhiji during → **Champaran Satyagraha**

×3 Who suggested launching of no tax campaign as a protest against Rowlatt Act → **Swami Shraddhanand**

×2 Who had opposed the Champaran Satyagraha of Mahatma Gandhi → **N. G. Ranga**

×2 In which of the following session of the Indian National Congress did M. K. Gandhi participate first → **Calcutta Session, 1901**

×2 Who from the following killed O' Dwyer responsible for Jallianwala Bagh massacre → **Udham Singh**

×2 Which were the twin principles of Mahatma Gandhi's Ram Rajya → **Truth and non-violence**

×2 In which of the following year did M. K. Gandhi wrote 'Hind Swaraj' → **1909**

×2 Who wrote the book 'Gokhale- My Political Guru' → **M. K. Gandhi**

×2 Who amongst the following invited Mahatma Gandhi to Champaran in connection with indigo cultivation → **Raj Kumar Shukla**

×2 Who had resigned from the Viceroy's Executive Council protesting Jallianwala Bagh Massacre → **Sir Shankar Nair**

×1 Which important event immediately preceded Jallianwala Bagh massacre → **Enactment of Rowlatt Act**

×1 Those who joined Mahatma Gandhi during the Champaran struggle included → **Rajendra Prasad and Anugraha Narayan Sinha**

×1 Who called Gandhiji as 'Mahatma' for the first time → **Rabindra Nath Tagore**

×1 Tinkathia System in Champaran meant → **Cultivation of Indigo on the 3/20 area of land**

×1 In which of the following movements did Mahatma Gandhi make the first use of hunger strike as a weapon → **Ahmedabad Strike**

×1 For whom among the following was Ahmedabad Satyagraha launched → **Cotton Mill Workers**

×1 In which of the following railway stations of South Africa, Mahatma Gandhi was thrown out of the train → **Pietermaritzburg**

×1 Mahatma Gandhi delivered his first public speech in India at → **Varanasi**

×1 Which Jail was named as 'Mandir' by Gandhiji → **Yarvada**

Social and Religious Reform Movements ×24

×6 Who founded Asiatic Society of Bengal → **William Jones**

×3 Who prominently fought for and got widow remarriage legalised → **Ishwar Chandra Vidyasagar**

×1 Jyotiba Phule was associated with → **Anti-caste movement**

×1 Mohammed Qasim Nanotavi's name is linked with → **Deoband Movement**

×1 Who founded the Dharma Sabha in 1830 → **Radhakanta Deb**

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Indian Geography 22 topics

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Location, States and Borders

UPPCS asks the Tropic of Cancer, the IST meridian, border states and state areas almost every few years.

LATITUDE, LONGITUDE AND TIME

Tropic of Cancer (23°30′N) Crosses 8 states: Gujarat, Rajasthan, MP, Chhattisgarh, Jharkhand, West Bengal, Tripura, Mizoram; not Manipur or UP. Near it: Gandhinagar, Ujjain, Bhopal, Jabalpur, Ranchi, Agartala; 80°E meets it in MP. ×17

IST meridian (82°30′E) Passes near Mirzapur (UP) and through UP, MP, Chhattisgarh, Odisha, Andhra Pradesh; not Maharashtra. IST = GMT + 5:30. ×8

East–west time gap About 30° of longitude = about 2 hours; the sun rises first in Arunachal (Dong); the new millennium's first sunrise was seen at Katchal (Nicobar). ×3

Local time sums 1° = 4 minutes. At IST noon, 120°E is 37.5° east → 150 minutes ahead → 2:30 pm.

India's size Seventh largest country, about 2.4% of world area and about 17–18% of world population.

Likely ask: Which states the Tropic of Cancer crosses (2017) and IST-meridian statements; time sums.

BOUNDARY LINES AND NEIGHBOURS

Radcliffe Line (1947) India–Pakistan and India–Bangladesh. ×2

Durand Line (1893) Pakistan–Afghanistan; India's claimed border with Afghanistan lies in PoK. ×2

McMahon Line (1914) India–China in Arunachal (Simla Convention).

Border states Myanmar: Arunachal, Nagaland, Manipur, Mizoram (not Assam). Bangladesh: West Bengal, Assam, Meghalaya, Tripura, Mizoram (not Manipur, Nagaland). Pakistan: Gujarat, Rajasthan, Punjab + J&K, Ladakh. Nepal: Uttarakhand, UP, Bihar, West Bengal, Sikkim. ×5

Tripura Bangladesh on three sides.

Sea zones Territorial waters 12 nautical miles; contiguous zone 24; EEZ 200.

Likely ask: Line → countries (McMahon 2018) and "which state does NOT border" Myanmar/Bangladesh.

STATES AND UTS

States by area Rajasthan > MP > Maharashtra > UP > Gujarat; smallest Goa. Before 2014 Andhra Pradesh was third.

Haryana, Punjab, Uttarakhand, Himachal by area Ascending: Haryana (44,212 km^2) < Punjab (50,362) < Uttarakhand (53,483) < Himachal (55,673) (asked 2025).

Union Territories Largest: Ladakh (since 2019; Andaman and Nicobar before); smallest: Lakshadweep. ×5

Neighbour counts UP touches 8 states + Delhi (the most); MP touches 5 states; Chhattisgarh 7 (not Bihar). ×2

National Capital Region Delhi with parts of Haryana, UP and Rajasthan; not Punjab.

Coastal states 9 states (Gujarat, Maharashtra, Goa, Karnataka, Keralam, Tamil Nadu, Andhra Pradesh, Odisha, West Bengal) + 4 UTs. ×4

Longest coastline Gujarat (about 2,340 km in the 2023 re-measurement), then Tamil Nadu and Andhra Pradesh. ×4

All physical divisions in one state West Bengal: Himalaya, plateau, plain, delta and coast.

Likely ask: States in order of area (2025) and the longest coastline (2018).

💡 India spans about 30° of longitude, so one standard meridian (82°30′E) keeps the whole country on one clock.

⚠ The Tropic of Cancer does not touch UP or Manipur. The largest UT is now Ladakh, not Andaman and Nicobar.

Peaks of India

Every range has one highest peak, and UPPCS asks it as a pair: peak and state, or peak and range.

HIMALAYA IN INDIA

K2 (Godwin Austen) Karakoram, Ladakh on India's map; India's highest peak ×2

Kangchenjunga Sikkim, on the Nepal border; the world's third highest

Nanda Devi Uttarakhand; highest peak wholly inside India ×4

Kamet Uttarakhand (Garhwal)

Trishul Uttarakhand (Kumaon) ×8

Saser Kangri Ladakh; highest of the Saser range of the Karakoram

Nun Kun Ladakh; highest in the Zanskar range

Reo Purgyil Highest peak of Himachal Pradesh

Kangto Highest peak of Arunachal Pradesh

Sandakphu Highest point of West Bengal (Singalila ridge)

Likely ask: Peak → state/range, or "which is in the Himalaya" (2022: Cho Oyu, Lhotse).

NORTH-EAST HILLS AND ISLANDS

Saramati Highest peak of Nagaland (Patkai, Myanmar border) ×3

Phawngpui (Blue Mountain) Highest peak of Mizoram

Shillong Peak Highest point of Meghalaya

Saddle Peak North Andaman; highest point of the Andaman and Nicobar Islands

Mount Thullier Great Nicobar; highest point of the Nicobar group

Likely ask: Highest peak of a North-East state or island (Saddle Peak).

PENINSULAR INDIA

Anamudi Keralam (Anaimalai hills); highest peak of peninsular India ×5

Doddabetta Tamil Nadu; highest peak of the Nilgiris ×3

Guru Shikhar Mount Abu, Rajasthan; highest peak of the Aravalli ×2

Dhupgarh Pachmarhi, Madhya Pradesh; highest peak of the Satpura ×2

Mullayanagiri Chikmagalur; highest peak of Karnataka

Kudremukh Karnataka; known for iron ore ×5

Kalsubai Highest peak of Maharashtra (Sahyadri)

Girnar Highest point of Gujarat

Parasnath Highest peak of Jharkhand

Arma Konda Andhra Pradesh; highest peak of the Eastern Ghats

Deomali Koraput; highest peak of Odisha

Mahendragiri Odisha, in the Eastern Ghats ×2

Likely ask: State → highest peak pairs (Anamudi, Doddabetta, Guru Shikhar).

NOT IN INDIA (THE USUAL ODD ONE OUT)

Mount Everest Nepal–Tibet border

Gosain Than (Shishapangma) Tibet (China)

Namcha Barwa Tibet; the eastern end of the Himalayas, where the Tsangpo turns

Makalu Nepal–Tibet border

Dhaulagiri Nepal

Nanga Parbat Western end of the Himalayas; on India's map in Ladakh

Likely ask: Odd one out: a Nepal or Tibet peak among Indian ones.

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Indian Geography 58 themes

Drainage System ×49

×6 Which one amongst the following rivers flows through a rift valley → **Tapi**

×5 The Betwa river joins → **Yamuna**

×4 Badrinath temple stands on the bank of → **Alaknanda**

×3 Which place is the confluence of the river Alakhnanda and the Bhagirathi → **Dev Prayag**

×2 Brahmaputra river in Himalayas is an example of → **Antecedent drainage**

×2 Which river is an example of the superimposed drainage → **Chambal**

×2 Which mangrove areas is situated in the delta region of Godavari river → **Coringa**

×2 Tungabhadra and Bhima are the tributaries of → **Krishna**

×2 Which river is called as 'Ganga of South' → **Kaveri**

×2 Which river of India is called 'Biological Desert' → **Damodar**

×2 The source of Cauvery River lies in → **Brahmagiri Hills**

×2 Ujjain is located → **On the bank of River Kshipra**

×1 Which rivers flows between Ladakh and Zaskar mountain ranges → **Sindhu**

×1 Which rivers have almost same point of emerging → **Brahmaputra and Indus**

×1 Which is the actual source of the Son river → **Amarkantak in Shahdol district**

×1 River Ganga enters in Uttar Pradesh from which district → **Bijnor**

×1 Gorakhpur has been situated on the bank of river → **Rapti**

×1 Which pair of Indian rivers flow through the rift valley → **Narmada and Tapi**

×1 Which river of India crosses the tropic of cancer twice → **Mahi**

×1 Which is located in between Narmada and Tapti rivers → **Satpura Ranges**

×1 The rivers of South India mainly have which of the following drainage patterns → **Dendritic**

×1 Hagari is a tributary of → **Tungbhadra**

×1 Sankosh river forms boundary between → **Assam and West Bengal**

×1 The flow of rivers in Deccan plateau is → **West to East**

×1 Which is associated with rift → **Graben**

×1 Vishnu Prayag is situated at the confluence of which of the following rivers → **Dhauli Ganga and Alakananda**

×1 Nashik is situated → **On the bank of Godavari river**

Irrigation and River Valley Project ×32

×6 Nagarjuna Sagar Project is located on the river, that is → **Krishna**

×3 On which one of the following rivers is the Tehri Hydropower Complex located → **Bhagirathi**

×3 Which river valley projects benefits more than one state → **Chambal Valley Project**

×3 A joint "Rajghat River Valley Project" has been implemented in the states of Uttar Pradesh and Madhya Pradesh on → **Betwa river**

×1 Which method of irrigation saves maximum water → **Drip irrigation method**

×1 Malampuzha dam is situated on which river → **Malampuzha**

×1 Cheruthoni Dam is situated on which river → **Periyar**

×1 Which canal has been taken out from Damodar river → **Eden Canal**

×1 On whose confluence Tehri dam is located → **Bhagirathi and Bhilangana**

×1 The states getting benefitted by Sardar Sarovar Project are → **Gujarat, Maharashtra, Madhya Pradesh and Rajasthan**

×1 Garland Canal System in India was proposed by → **Dinshaw J. Dastur**

×1 Which project is the joint work of Tamil Nadu, Andhra Pradesh and Karnataka → **Telugu Ganga**

×1 Bhakra Nangal is the joint project of which of the following states → **Haryana, Punjab and Rajasthan**

×1 Baglihar project is built on → **Chenab river**

×1 Kalpong hydroelectric project is located in → **Andaman and Nicobar island**

×1 Which river projects uses the waters of the Beas River Pong Dam → **Indira Gandhi Canal Project**

×1 Setusamudram project connects → **Gulf of Mannar with Palk strait**

×1 Bansagar project is located on → **Son river**

×1 The place of origin of 'Indira Gandhi Canal' is → **Harike Barrage**

×1 Farakka barrage is constructed → **To maintain adequate water flow in Hooghly**

×1 Pochampadu project located on → **Godavari river**

Agriculture and Animal Husbandry ×31

×3 Jaya, Padma and Krishna are the high yield variety of which of the following grain → **Paddy**

×3 Shaktiman I and Shaktiman II are genetically modified Varieties of → **Maize**

×2 Which state of India is the largest (per. Hectare) producer of rice → **Punjab**

×2 Which is the disease of wheat crop → **Rust**

×2 The silk produced by spiders is called → **Gossamer silk**

×2 About 30 percent of India's area lies in the three states of → **Rajasthan, Madhya Pradesh and Maharashtra**

×2 'Pusa Bold' is a variety of → **Mustard**

×2 The best Potato variety for processing purposes is → **Kufri Ashoka**

×2 Most of the production of Natural gas in India comes from → **Bombay High**

×1 Coffee plantations were first started by the British in → **Chikmagalur district**

×1 Which group is related to fiber crops → **Cotton, Jute, Sunn hemp**

×1 Yellow revolution in India is related to which of the following → **Oilseed production**

×1 Diameter of which of the following particles is less than .002mm → **Clay**

×1 Which farming system is helpful in environmental protection → **Organic farming**

×1 Yellow vein disease occurs in lady finger from → **White fly**

×1 Orobanche weed is commonly found in → **Tobacco field**

×1 Single crop forming is a feature of → **Commercial grain farming**

×1 Uttar Pradesh stand first in which production in India → **Wheat and sugarcane**

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World Geography 16 topics

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Universe and Solar System

The biggest chapter of UPPCS World Geography questions. One-liners on planets, the Sun and the Earth–Moon system.

SUN, STARS AND GALAXIES

Sun's energy Nuclear fusion of hydrogen into helium; sunlight reaches Earth in about 8 minutes 20 seconds. ×4

Stars A star's colour shows its temperature (blue hottest, red coolest); a supernova is a dying star exploding. ×2

Chandrasekhar limit S. Chandrasekhar: above about 1.44 solar masses a dying star collapses (neutron star or black hole). ×4

Milky Way (Akash Ganga) A spiral galaxy.

Aryabhata Said the Earth rotates on its axis; India gave the world zero. ×2

Likely ask: Science-style one-liners: Sun's fuel, light time, star colour.

PLANETS AND MOONS

Mercury Smallest planet, nearest the Sun, shortest orbit; no moon. ×10

Venus Closest to Earth, brightest, hottest; "Earth's twin"; the morning and evening star; no moon. ×11

Mars Day length and axial tilt almost like Earth's; evidence of water, gypsum and methane. ×15

Jupiter and Saturn Jupiter is the largest planet (faint rings; Europa may hold a sub-surface ocean, Ganymede the largest moon). Saturn has the most moons; Titan is its largest; giant planets' atmospheres hold methane (2022). ×16

Asteroid belt Between Mars and Jupiter. ×3

Moon About 3,84,400 km away; no atmosphere (its gravity is too weak to hold gas); mass stays the same on Earth, weight changes. ×7

Likely ask: "Which planet..." one-liners (smallest, twin, no moon) and Saturn's atmosphere (2022).

EARTH: SEASONS, ECLIPSES, TIDES

Axis tilt 23.5° from the vertical (66.5° to the orbit plane) (asked 2016). ×2

Solstices and equinoxes Longest day and shortest noon shadow in the north: 21–22 June; shortest day 22 December; equinoxes 21 March and 23 September. ×4

Perihelion and aphelion Earth is nearest the Sun about 3 January and farthest about 4 July.

Eclipses and tides Solar eclipse on a new moon, lunar on a full moon. Spring (great) tides when Sun, Moon and Earth line up; neap tides at the quarter moons. ×2

Leap year Divisible by 4; century years only if divisible by 400 (2000 yes, 1900 no).

Fresh water Most fresh water is in ice caps and glaciers (about 69%), then groundwater (about 30%). All water: oceans > ice > groundwater > rivers (2015, 2025). ×4

Climate cycles (Milankovitch) Eccentricity of the orbit, obliquity of the axis, precession of the equinoxes; solar irradiance is not one of them (2015).

Earth's magnetic field Made by currents in the liquid outer core. ×2

Likely ask: Axis tilt (2016), solstice dates, world water shares (2015, 2025).

💡 Inner planets are small and rocky, outer planets are giant gas balls, because heat near the young Sun drove light gases outward.

⚠ Venus, not Mars, is "Earth's twin"; Mars has an Earth-like day and tilt. Jupiter is the largest planet, but Saturn has the most moons.

Latitude, Longitude and Time

Which countries a line crosses, and time sums (15° = 1 hour).

LINES OF LATITUDE

Equator Crosses Ecuador, Colombia, Brazil, Gabon, Congo, DR Congo, Uganda, Kenya, Somalia, the Maldives' waters and Indonesia; Singapore is the big city nearest it. Day and night are always 12 hours there. ×3

Tropics Tropic of Cancer: Mexico, Sahara states, Egypt, Saudi Arabia, UAE, Oman, India, Bangladesh, Myanmar, China, Taiwan (not Iran). Tropic of Capricorn: Chile, Argentina, Paraguay, Brazil, Namibia, Botswana, South Africa, Mozambique, Madagascar, Australia (not Bolivia). Africa is the only continent crossed by all three lines. ×9

Boundary parallels 38°N: North–South Korea; 49°N: USA–Canada; horse latitudes about 30°; the Arctic Circle (66.5°N) touches Iceland's north. ×4

Likely ask: Countries a line crosses, "which does NOT lie on it".

MERIDIANS AND TIME

Prime Meridian Through the UK, France, Spain, Algeria, Mali, Burkina Faso, Togo, Ghana (not Niger, Nigeria, Portugal); meets the Equator in the Gulf of Guinea (Atlantic). With 180° it forms a great circle; every meridian is half a great circle. ×6

Time sums 15° = 1 hour, 1° = 4 minutes. GMT noon + local 5 pm → 75°E. Local 6 am with GMT 3 am → 45°E. 10 am in London = 3:30 pm in India. ×6

International Date Line Roughly 180°; 12 hours from Greenwich; crossing it eastward you go back a day. ×3

"Iso-" lines Isobar = pressure · isohyet = rain · isotherm = temperature · isohaline = salinity · isogonic = equal magnetic declination · isoseismal = equal quake intensity. Datum line = base level for heights. ×3

Likely ask: Time sums (GMT ↔ local) and Prime Meridian countries.

💡 The Earth turns 360° in 24 hours, so every 15° of longitude is one hour of time.

⚠ The Tropic of Cancer does not cross Iran; the Tropic of Capricorn does not cross Bolivia. Africa is the only continent crossed by all three lines.

Countries, Capitals and Boundaries

Landlocked countries, groupings, capitals and nicknames; asked as "which is NOT correctly matched".

CONTINENTS AND LANDLOCKED STATES

Continents by area Asia > Africa > North America > South America > Antarctica > Europe > Australia. Africa has the most countries (54); Europe the highest share of plains; North America has no landlocked country. ×13

Landlocked countries Bolivia and Paraguay (South America), Laos (only one in South-East Asia), Afghanistan, Armenia, Hungary, Switzerland, Austria, Slovakia, Botswana, Ethiopia, Chad, Niger, Rwanda. Montenegro and Liberia have coasts. ×6

Countries by area Russia, Canada, USA/China, Brazil, Australia, India (7th), Argentina (8th); France is smaller than India. ×4

Likely ask: Landlocked country (2022: Bolivia) and continent order.

GROUPINGS AND SEAS

Country groups Benelux: Belgium, Netherlands, Luxembourg · Scandinavia: Norway, Sweden, Denmark (Finland is Nordic, not Scandinavian) · Golden Crescent: Afghanistan, Iran, Pakistan · Golden Triangle: Myanmar, Laos, Thailand (opium) · Sahel: Senegal to Sudan (not Tunisia). ×9

Two-continent countries Turkey, Russia, Egypt, Kazakhstan, Georgia, Azerbaijan.

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World Geography 65 themes

The Universe and Solar System ×25

×3 Long radio waves reflect from which layer of earth's atmosphere → **Ionosphere**

×2 Which planet has a day length and axial tilt almost like Earth's → **Mars**

×2 The small celestial bodies (Asteroid) are found in our solar system between → **Mars and Jupiter**

×2 Summer Solstice occures every year on → **21 June**

×1 The big-bang theory explains the origin of which of the following → **The universe**

×1 The boundary beyond which stars die is called → **Chandrasekhar limit**

×1 Which had suggested that changing the position of the Earth on its axis is a factor for climate change → **Milutin Milankovic**

×1 Who had opined that Earth revolves around the sun → **Aryabhata**

×1 Akash Ganga is classified as → **Spiral galaxy**

×1 Nuclear fuel in the sun is → **Hydrogen**

×1 Which one has the possibility of life on planet other than earth, because the environment there is very approachable for life → **Europa - Moon of Jupiter**

×1 Which two planet do not have any satellites → **Mercury and Venus**

×1 The Earth's magnetic field is due to → **Currents circulating inside the core**

×1 Titan is the largest moon or satellite → **Of Saturn**

×1 When a rock is brought from the surface of the moon to the earth → **its weight will be changed but mass remain same**

×1 The largest amount of fresh water on our planet is in → **Continental and mountain glaciers (Permanent Ice)**

×1 When does solar eclipse occur → **New Moon Day**

×1 In which of the following dates your shadow is the shortest in the afternoon → **June 22**

×1 Which day will be the longest → **22 June**

×1 The reason for the elliptical appearance of the sun and the moon near the horizon is → **Refraction**

The Mountain & Plateau ×21

×4 Africa's highest mountain peak Mt. Kilimanjaro lies in → **Tanzania**

×3 Kara Kum desert is situated in which of the following countries → **Turkmenistan**

×2 The mountain forming the border between France and Spain is → **Pyrenees**

×2 White Mountains are found in → **U.S.A**

×2 In which country the Drakensberg Mountain is located → **South Africa**

×2 The Andes mountain range is located in which of the following continents → **South America**

×1 Mount Nimba (UNESCO World Heritage Site) is situated in which of the following countries → **Guinea and Ivory Coast**

×1 Darling range is situated along which of the following coasts of Australia → **South-Western Coast**

×1 Mount Titlis is in → **Switzerland**

×1 Which mountain is located in Italy → **Apennine**

×1 Which is an example of a "Residual mountain" → **Aravalli**

×1 Which is a temperate desert → **Patagonian Desert**

The Mineral Resources ×20

×5 According to recent reports, what is the place of India in steel production of the world → **Second**

×3 Mexico is the largest producer of → **Silver**

×2 Postmasburg and its adjacent areas of South Africa is famous producer of which of the following minerals → **Manganese**

×2 Silicon valley in United States of America is located → **In California**

×1 Which is the largest coal producing centre of Ukraine → **Donetsk**

×1 Which region is famous for coal mining → **Karaganda**

×1 Superior Lake region in North America is famous for → **iron - ore reserves**

×1 Bauxite is mineral ore of → **Aluminium**

×1 In Malaysia, the 'Kinta Valley' is famous for → **Tin Production**

×1 Kimberley is famous for → **Diamond mining**

×1 In which among the following types of coal there is more percentage of carbon in comparison of others → **Anthracite**

×1 Where are the diamond mines in India → **Madhya Pradesh**

The Countries of the World, Capital & Boundaries ×17

×2 Which country is the largest in the continent of Africa in terms of area → **Algeria**

×2 Which is only land locked country in Southeast Asia → **Laos**

×2 'Sahel' region do NOT include areas of which one of the following countries → **Tunisia**

×1 The two smallest continents of the world are → **Australia and Europe**

×1 Which capital cities in Europe is situated closest to the North Pole → **Helsinki**

×1 Which group of countries share border with Israel → **Lebanon, Syria, Jordan, Egypt**

×1 Which country has the lowest density of population → **Mongolia**

×1 Which is the correct ascending order of the following countries in terms of area → **Argentina, India, Australia, Brazil**

×1 Which group of countries are called 'Benelux countries' → **Belgium, Netherlands, Luxembourg**

×1 The most densely populated country of South America is → **Ecuador**

×1 Which is the capital of United Arab Emirates → **Abu Dhabi**

×1 Which is known as 'Oil capital of Europe' → **Aberdeen**

×1 The river situated along the border between the United States of America and Mexico is → **The Rio Grande**

×1 Which countries forms the longest terrestrial border with India → **Bangladesh**

The Latitude & Longitude Lines ×14

×3 Which rivers crosses the equator twice → **Zaire**

×1 The international border of North Korea and South Korea is → **38° N. Latitude**

×1 Which latitudes (northern or southern) would you associate with "horse latitude" → **30°**

×1 Which longitudes along with the Prime Meridian forms a great circle on the globe → **180°**

×1 Through which one of the following groups of countries does the Equator pass → **Colombia, Kenya and Indonesia**

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Polity 15 topics

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Sources and the Constituent Assembly

About two-thirds of the Constitution's structure came from the Government of India Act 1935 (federal scheme, Governor, emergency, public service commissions). Ideas came from abroad; the frame came from 1935.

CONSTITUTIONAL DEVELOPMENT (1773–1947)

Regulating Act 1773 Governor-General of Bengal; Supreme Court at Calcutta (1774). ×10

Charter Act 1813 First grant for education (₹1 lakh a year); Company's trade monopoly ended except tea and China. ×5

Indian Councils Acts 1861: Indians nominated to the councils, portfolio system · 1892: indirect election, budget discussion · 1909 (Morley–Minto): separate electorates for Muslims. ×4

Government of India Act 1919 Dyarchy in the provinces; two Houses at the Centre; Chamber of Princes with 120 members (1921) (asked 2023). ×7

Government of India Act 1935 All-India Federation (never formed), provincial autonomy, residuary powers with the Governor-General, Federal Court, Burma separated, India Council abolished. The ordinance power is copied from it. ×25

Nehru Report (1928) First draft to list fundamental rights for India. ×7

Interim Government and Independence Act Interim Government under Nehru: 2 September 1946. Indian Independence Act passed July 1947 (Royal Assent 18 July). ×21

Likely ask: Act → feature (Chamber of Princes 2023, 1935 federation, 1773 Supreme Court).

BORROWED FEATURES

Britain Parliamentary system, rule of law, single citizenship, writs, bicameralism ×2

USA Fundamental Rights, judicial review, impeachment, Vice-President, removal of judges ×2

Ireland Directive Principles; nomination to the Rajya Sabha; method of electing the President ×4

Canada Federation with a strong centre; residuary powers with the centre; Governor appointed by the centre ×4

Australia Concurrent List; joint sitting; freedom of trade between States ×5

Former USSR Fundamental Duties; ideal of justice in the Preamble ×4

Germany (Weimar) Suspension of Fundamental Rights during Emergency ×3

France Republic; liberty, equality, fraternity ×2

South Africa Amendment procedure; election of Rajya Sabha members ×7

Japan 'Procedure established by law' ×2

Likely ask: Feature → source country (Ireland = DPSP, Canada = strong Centre).

THE ASSEMBLY

Idea first put forward by M. N. Roy (1934) Congress adopted the demand in 1935; Nehru voiced it ×3

389 members planned; 299 after Partition 296 from British India, 93 from princely states

Sachchidananda Sinha Temporary chairman of the first sitting ×3

Rajendra Prasad Permanent President, elected 11 December 1946

H. C. Mukherjee and V. T. Krishnamachari Vice-Presidents of the Assembly ×5

B. N. Rau Constitutional Adviser; prepared the first draft

Objectives Resolution Moved by Nehru 13 December 1946; adopted 22 January 1947; became the Preamble ×3

Time taken 2 years, 11 months, 18 days; 11 sessions ×4

National flag adopted 22 July 1947; anthem and song 24 January 1950 Rajendra Prasad elected first President the same day (24 January 1950) ×7

Elephant Symbol (seal) of the Constituent Assembly

Prem Behari Narain Raizada Hand-wrote the original Constitution; Nandalal Bose's artists decorated it

How the Assembly was formed Under the Cabinet Mission Plan (1946); members indirectly elected by the provincial assemblies. ×2

Sessions and dates First sitting 9 December 1946; 11 sessions; last sitting 24 January 1950 (Rajendra Prasad elected President, anthem and song adopted) (asked 2018). ×3

Who said what Granville Austin: "The Assembly was the Congress and the Congress was India." Patel on separate electorates: "they have left mischief behind" (2021). ×2

Likely ask: Assembly dates (last sitting, 2018) and who said what (Austin, Patel 2021).

COMMITTEES AND CHAIRMEN

Drafting Committee B. R. Ambedkar; seven members; formed 29 August 1947 ×6

Union Powers and Union Constitution Committees Jawaharlal Nehru

Provincial Constitution Committee Vallabhbhai Patel

Advisory Committee on Fundamental Rights, Minorities, Tribal Areas Vallabhbhai Patel; sub-committees under J. B. Kripalani (Rights) and H. C. Mukherjee (Minorities) ×7

Rules of Procedure and Steering Committees Rajendra Prasad

States Committee Jawaharlal Nehru; talks with princely states

Flag Committee (ad hoc) Rajendra Prasad

North-East Frontier Tribal Areas Sub-Committee Gopinath Bordoloi

Likely ask: Committee → chairman (Drafting = Ambedkar, Union Powers = Nehru).

NATURE OF THE CONSTITUTION

Federal labels Quasi-federal: K. C. Wheare · cooperative federalism: Granville Austin · bargaining federalism: Morris-Jones · "federation with a strong centralising tendency": Ivor Jennings (2019, 2024). ×3

Indestructible Union, destructible States States have no right to secede; Parliament can change State boundaries (Article 3) without the State's consent. ×4

Parliamentary system The executive is responsible to the Lok Sabha (Article 75(3)); the President is the nominal head (A–R 2025). ×6

Right to vote A constitutional right (Article 326), not a fundamental right; age 18 since the 61st Amendment (1989), first used in the 1989 election. ×3

Likely ask: A–R on federal and parliamentary features (2017, 2020, 2025); scholar → term (2019, 2024).

💡 The makers borrowed working parts from older constitutions and from the 1935 Act, so most features have a "source country".

⚠ Directive Principles came from Ireland, Fundamental Duties from the USSR, the Concurrent List from Australia. The Assembly's first sitting was chaired by Sachchidananda Sinha; Rajendra Prasad was its elected President; B. N. Rau was the adviser, not a member of the Drafting Committee.

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Polity 51 themes

Articles, Schedules & Parts of the Constitution ×37

×4 Under which Article of the Indian Constitution, there is provision for the Election Commission → **Article 324**

×3 Which Article of the Constitution deals to provide necessary facilities by the States for the use of mother tongue in their primary education → **Article 350(A)**

×3 Coelho case is related to which Schedule of the Constitution of India → **9th**

×3 Under the Indian Con st itution, concentration of wealth violates → **the Directive Principles of State Policy**

×2 Which Article is related to the appointment of a Finance Commission by the President of India → **280**

×2 Under which Article of the Constitution, Money Bill has been defined → **110**

×2 Under which Article of the Indian Constitution provisions has been made for All India Service → **Article 312**

×2 President rule can be imposed on the State under which Article of the Constitution → **Article 356**

×2 Which is a Directive Principle of the State Policy → **Uniform Civil Code**

×2 How many Fundamental Duties are there in the Indian Constitution → **Eleven**

×2 The subject of Panchayati Raj is in → **State List**

×1 Under which Article special provision has been made for Finance Bill → **Article 117**

×1 Annual budget is placed under which Article of the Constitution → **Article 112**

×1 Article related to the abolition of untouchability in the Indian Constitution is → **Article 17**

×1 Which Article of the Constitution permits the Supreme Court to review its own judgment or order → **Article 137**

×1 The provision for the representation of Anglo-Indian community in the Lok Sabha has been made in the Constitution under → **Article 331 (ended by the 104th Amendment, 2020)**

×1 Special provision under Article 371 of the Constitution has been made for which of the following State → **Maharashtra and Gujarat**

×1 Constitution can be amended under which Article of the Constitution → **Article 368**

×1 In order to provide Constitutional protection, State land reforms are added to → **9th Schedule**

×1 Which Schedule of the Constitution of India contains provisions regarding Anti-Defection Act → **Tenth Schedule**

×1 Marriage, Divorce, Adaptation are mentioned in which list of the seventh Schedule of Constitution → **List-III (Concurrent List)**

Panchayati Raj and Municipalities ×30

×6 Which Committee recommended for according a Constitutional position to Panchayati Raj → **L. M. Singhvi Committee**

×4 Who is considered as the "Architect of Panchayati Raj" in India → **B.R. Mehta**

×2 State Election Commissioner for the election of Panchayat would be appointed by → **Governor of the State**

×2 In which year P.C. Hota Committee on Civil Services Reforms was con st ituted → **2006**

×2 The system of proportional representation as an electoral mechanism ensures → **Representation of minorities**

×2 Who was the Chairman of the Committee which proposed Democratic Decentralisation and Panchayati Raj → **Balwant Rai Mehta**

×2 Nehru inaugurated the first Panchayati Raj on 2 October 1959 at → **Nagaur (Rajasthan)**

×1 National Panchayati Raj Day in India is celebrated on → **24 April**

×1 If a Panchayat is dissolved, elections are to be held within → **6 months**

×1 Who is authorised to make provisions with respect to the composition of Panchayats → **Legislature of State**

×1 Reservation of seats in Panchayat elections for Scheduled Castes shall not apply to the State of → **Arunachal Pradesh**

×1 The number of seats reserved for woman in Panchayati Raj institutions in U.P is → **One-third of the total seats**

×1 Which is related to the theme of 'Grass Root Democracy' → **Panchayati Raj System**

×1 The tenure of every Panchayat in India is five years from → **The scheduled date of its first meeting**

×1 In India the first Municipal Corporation was set up in which one among the following places → **Madras**

×1 The members of the Pachayat Samiti are → **Indirectly elected by the members of the Village Panchayat**

×1 In Panchayati Raj system the Panchayat Samiti is constituted at the → **Block level**

Part III – Fundamental Rights ×24

×3 Which Article of the Constitution of India is related to equality before the law → **Article 14**

×3 Article 21A provides free and compulsory education to children in the age group of → **6 to 14 years**

×3 The Guardian of Fundamental Rights is → **Judiciary**

×2 Which pair of Articles relating to the Fundamental Rights cannot be suspended during the enforcement of emergency under Article 359 → **Articles 20 and 21**

×2 Which Article gives safeguard to the Fundamental Rights of arrested person → **Article 22**

×2 At present in the Constitution of India Right of Property is a → **Statutory Right**

×1 Which Article(s) of the Indian Constitution deals with Fundamental Rights → **Article 12–35**

×1 In the Indian Constitution, the Right to Equality is granted by five Articles. They are → **Article 14 to Article 18**

×1 Fundamental Rights are → **Justiciable**

×1 Which Fundamental Rights have been not provided to foreigners → **Freedom of expression**

×1 In Indian Constitution, Right to Freedom has been provided by four Articles which are → **Article 19 to Article 22**

×1 Which right was described by Dr B.R. Ambedkar as the heart and soul of the Constitution → **Right to Constitutional remedies**

×1 Under the Preventive Detention a person can be detained without trial for → **Three months**

×1 For the enforcement of Fundamental Rights which of the following is included in the definition of 'State' under Article 12 → **Life Insurance Corporation**

×1 Reservation of schedule caste and schedule tribes in educational institutions is governed by → **Article 15(4) of the Constitution**

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Environment 13 topics

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Ecology Basics

Energy flows one way through an ecosystem, from the Sun to producers to consumers, and is lost as heat at each step. Nutrients go round in cycles.

ENVIRONMENT AND SUSTAINABLE DEVELOPMENT

Sustainable development Meeting today's needs without harming the ability of future generations to meet theirs (Brundtland, 1987): inter-generational equity. Sustainable agriculture keeps land quality intact; sustainable tourism protects culture and ecology (2018, 2019, 2020, 2023). ×13

Kinds of environment Physical (abiotic), biological (biotic) and cultural (man-made); "operational environment" is not one (2020). Environment changed by people is anthropogenic (2019). ×5

Environmental Kuznets Curve Inverted U: pollution rises with per-capita income at first, then falls (2019).

Silent Spring (1962) Rachel Carson's book on DDT and pesticides; it started the modern environmental movement (2020).

Ecological transition The idea was first used by John W. Bennett (1976) (2020).

Likely ask: The Brundtland definition of sustainable development, or the shape of the Kuznets curve (inverted U).

WORDS AND THEIR MAKERS

Ecosystem (Tansley, 1935) The term was coined by A. G. Tansley

Ecology (Haeckel) The word was coined by Ernst Haeckel (1869) ×7

Ecological niche The role and position of a species in its habitat ×4

Biome A large region with its own climate, plants and animals: desert, tundra, rain forest ×4

Likely ask: Who coined "ecosystem" (Tansley, 1935) or "ecology" (Haeckel).

FOOD CHAINS AND PYRAMIDS

Grazing and detritus food chains Grazing starts from green plants; detritus starts from dead matter

Food web Many food chains joined together; makes the ecosystem stable

10 percent law Lindeman (1942); energy passed to the next level ×4

Pyramid of numbers Inverted in a tree ecosystem (one tree, many insects)

Pyramid of biomass Inverted in the sea (phytoplankton weigh less than the fish)

Pyramid of energy Always upright, never inverted

Primary productivity Gross is all food made by plants; net is what is left after their own respiration ×5

Trophic levels Levels of organisms linked in a food chain: producers → herbivores (primary consumers) → carnivores (secondary). The sun is the first source of energy; producers link the abiotic and biotic parts. Man is both a primary and a secondary consumer (2016, 2023). ×11

Phytoplankton The main primary producers of seas and lakes; they grow most in the limnetic zone, the open sunlit water (A–R 2022). ×3

Likely ask: Which pyramid is never inverted (energy), or man's place in the food chain.

CHANGE OVER TIME

Ecological succession Slow, orderly change in a community till it reaches a stable climax ×5

Pioneer species First to settle on bare rock: lichens

Climax community The final, stable stage of succession

Hydrosere and xerosere Succession starting in water; starting on dry rock

Likely ask: The pioneer species on bare rock (lichens), or the final stage (climax).

EDGES, SPECIES ROLES AND LIMITS

Ecotone The meeting zone of two ecosystems, like a mangrove between land and sea ×2

Edge effect More species live in the ecotone than in either side

Keystone species A species whose loss changes the whole ecosystem (tiger, fig, sea otter)

Flagship species A popular animal used to win support for conservation (tiger, panda)

Indicator species Shows the health of the environment: lichens for sulphur dioxide ×5

Biomagnification A poison like DDT or mercury grows stronger up the food chain ×5

Carrying capacity The largest population an area can support for long

Ecological footprint and Earth Overshoot Day The land and sea a person needs; the day each year we use up a year's resources ×2

Likely ask: Ecotone and edge effect as an A–R pair, or keystone vs flagship species.

KINDS OF ECOSYSTEM

Natural and man-made Terrestrial (forest, grassland, desert) and aquatic: lotic = flowing water like rivers (2023), lentic = still water like ponds. A crop or rice field and an aquarium are artificial ecosystems (2016). ×4

Ocean The largest and the most stable ecosystem (2018). ×4

Levels of organisation Organism → population → community → ecosystem → landscape → biome → biosphere (2017).

Parts and cycles Parts of an ecosystem depend on each other (A–R 2021: "not interdependent" is false). Green plants are the producers. Elements move in biogeochemical cycles; photosynthesis takes CO_2 out of the carbon cycle. ×6

Likely ask: Lotic vs lentic, or which ecosystem is artificial (rice field) or the most stable (ocean).

FACTORS AND ADAPTATIONS

Ecological factors Edaphic = soil (2018); the others are climatic, biotic and topographic.

Animals by habitat Desert dwellers are xericoles (2023); tree dwellers arboreal; burrowers fossorial. The kangaroo rat can live its whole life without drinking water (2018). ×2

Insectivorous plants Nepenthes (pitcher plant), Drosera (sundew), Utricularia (bladderwort): they trap insects for nitrogen. ×4

Eucalyptus Called an environmental hazard: it drains groundwater and lets little grow under it (2022; bank 4 times). ×6

Likely ask: Which factor is about soil (edaphic), or which tree harms the environment (eucalyptus).

💡 Every environment question rests on how energy flows and communities change, so the basic terms come first.

⚠ The pyramid of energy is never inverted; the pyramids of numbers and biomass can be. Lichens are the pioneers on rock, not mosses.

Biodiversity and Its Conservation

UPPCS asks this chapter in plain words: what biodiversity means, where it is richest, why it is lost, in-situ vs ex-situ, and the 2002 Act.

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Environment 29 themes

Environment Pollution ×35

×5 'Green muffler' is used to protect from which type of pollution → **Noise**

×4 The most toxic metal pollutant of automobile exhaust is → **Lead**

×3 The gas which leaked from Union Carbide factory, Bhopal was → **Methyl isocyanate**

×3 Acid rain is caused by the pollution of environment by → **Nitrogen oxides and sulphur dioxide**

×3 The non-biotic pollutant of underground water is → **Arsenic**

×2 Main purpose of the Ganga Action Plan (1985) → **To make its water pollution-free**

×2 Fly ash pollution is caused by → **Thermal power plant**

×2 Human made pollutant are called → **Anthropogenic**

×1 Biological Oxygen Demand (BOD) is a standard criteria for → **Pollution assay in aquatic ecosystems**

×1 Which country has natural arsenic water contamination → **Bangladesh**

×1 The biggest source of air pollution in big cities of India is → **Transport**

×1 'Euro norms' are meant for → **Regulating vehicular emission of harmful gases**

×1 A water body having high BOD indicates that its water is → **Being contaminated by sewage**

×1 Which is associated with biological nitrogen fixation → **Blue-green algae**

×1 Sound above what level (in decibels) is considered hazardous noise pollution → **80 dB**

×1 Which unit is used to measure noise pollution → **Decibel**

×1 Which is the reason for maximum noise pollution → **Jet flying**

×1 "Knock- Knee syndrome" is caused by the pollution of → **Fluoride**

×1 The crew and passengers of a flying aircraft suffer generally from chronic obstructive pulmonary disease due to the effect of → **Ozone concentration**

Sanctuary/Biosphere Reserve ×29

×4 Which State is related to 'Silent Valley Project' → **Keralam**

×3 Select the State from amongst the following with the maximum number of National Parks → **Madhya Pradesh**

×3 Which Biosphere Reserves is spread over three states in India → **Nilgiri**

×2 Chandoli National Park is situated in which of the following states → **Maharashtra**

×2 The 16th Biosphere Reserve of India 'Cold Desert' lies in → **Himachal Pradesh**

×2 Sariska and Ranthambore are the reserves for which of the following animals → **Tiger**

×1 Keibul Lamjao National Park is located in which lake → **Loktak**

×1 Chandraprabha Wildlife Sanctuary is situated in which district of Uttar Pradesh → **Chandauli**

×1 The first National Park of India is → **Jim Corbett National Park**

×1 Dhoopgarh Peak is situated in which of the following National Park → **Satpura National Park**

×1 The Yellowstone National Park is located in → **U.S.A**

×1 The Periyar Wildlife Sanctuary is famous for → **Wild Elephants**

×1 Among the following Tiger Reserves, which one has the largest area under "Critical Tiger Habitat" → **Nagarjunasagar–Srisailam**

×1 Which Tiger Reserve of India is located in Mizoram → **Dampa**

×1 'International Tiger Day' is observed on → **29th July**

×1 The 'Cloud Goats' of the Nilgiri are found in → **Eravikulam National Park (Nilgiri tahr)**

×1 The Marine National Park is located in → **Gulf of Kutch**

×1 Suklaphanta Wildlife Reserve is located in → **Nepal**

×1 Bakhira Bird Sanctuary is situated in → **Basti**

Ecology ×26

×2 Which component of the ecosystem acts as intermediary between biotic and abiotic kingdoms → **Producer**

×2 "Ecology is permanent economy" is the slogan of which movement → **Chipko Movement**

×2 'Chipko' movement was basically against → **Deforestation**

×1 Which is an insectivorous plant → **Nepenthes**

×1 Trophic levels are formed by → **Organisms linked in food chain**

×1 'Ecology' is the study of relationship between → **Organism and Environment**

×1 The entire sequence of communities, that successively change in a given area are called as → **Sere**

×1 The movement of nutrient elements through the various components of an ecosystem is called → **Bio-geo-chemical cycle**

×1 The term 'Ecosystem' was proposed by → **Tansley**

×1 Which is an example of anthropogenic biome → **Cropland**

×1 Which is an artificial ecosystem → **Rice field**

×1 The environment modified by human activities is called → **Anthropogenic environment**

×1 Among the biotic component of the ecosystem, the producer system is → **Green plants**

×1 Who used the term 'deep ecology' for the first time → **Arne Naess**

×1 Which is the largest ecosystem of the world → **Ocean**

×1 In a food chain, man is → **Primary as well as secondary consumer**

×1 The concept of ecological niche was enunciated by → **Grinnell**

×1 The sequential change in the growth of a field is called → **Succession**

×1 The amount of energy during transfer from one trophic level to another in an ecosystem → **Decreases**

×1 The pyramid of energy is always → **Upright**

×1 In the marine environment, the main primary producers are → **Phyto Planktons**

×1 The unit to measure 'Ecological Footprint' is → **Global Hectare**

×1 The minimum area of the land required to completely sustain the life of the person is called his → **Ecological footprint**

National parks and sanctuaries ×25

×4 Dachigam: Hangul (Kashmir stag). Trap: 'Periyar — Hangul' is the wrong pair.

×3 Silent Valley (Keralam): home of the lion-tailed macaque; very rich biodiversity.

×2 Kaziranga: famous for the rhinoceros.

×2 Dudhwa National Park is in Lakhimpur Kheri district.

×2 Wild Ass Sanctuary is in Gujarat.

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Physics 14 topics

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SI Units and Measurement

A physical quantity needs a number and a unit. SI has seven base units; derived units describe combinations of base quantities. A unit of energy cannot be used as a unit of power.

BASE UNITS

Length — metre The SI base unit of length. ×8

Mass — kilogram The SI base unit of mass; weight is a force.

Time — second The SI base unit of time. ×2

Current — ampere The SI base unit of electric current.

Temperature — kelvin The SI base unit of thermodynamic temperature; no degree sign is used. ×4

Amount of substance — mole One mole contains exactly 6.02214076 × 10^{23} specified entities.

Luminous intensity — candela The SI base unit of luminous intensity.

Likely ask: Which is not an SI base unit, or the unit of luminous intensity (candela).

DERIVED UNITS

Force — newton Weight is measured in newtons, not kilograms. ×7

Pressure — pascal Pressure is force acting per unit area. ×4

Energy and work — joule Heat, work and mechanical energy share this SI unit. ×10

Power — watt Power tells how quickly energy is transferred. ×6

Frequency — hertz One hertz means one cycle per second. ×2

Electric charge — coulomb Charge is distinct from current.

Potential difference — volt It measures energy transferred per unit charge.

Resistance — ohm Resistance opposes electric current.

Capacitance — farad Capacitance describes charge storage for a given potential difference.

Magnetic flux — weber Magnetic flux density is measured in tesla.

Radioactivity — becquerel One becquerel is one nuclear decay per second; curie is a non-SI activity unit.

Absorbed dose — gray Sievert expresses equivalent or effective radiation dose.

Likely ask: Match the quantity with its unit: pressure–pascal, power–watt, charge–coulomb.

SPECIAL UNITS AND SCALES

Light year and parsec Both measure astronomical distance, not time. ×6

Electron volt A unit of energy used for particles.

Kilowatt-hour An energy unit; one electricity billing unit is one kilowatt-hour. ×3

Knot and nautical mile Knot measures speed; a nautical mile measures distance and equals 1852 metres. ×4

Mach number The ratio of an object's speed to the local speed of sound; it has no unit. ×2

Decibel A logarithmic sound-level measure; SI sound intensity is measured in watts per square metre. ×7

Angstrom and nanometre One angstrom is 0.1 nanometre; both measure very small lengths. ×5

Earthquake magnitude and intensity Richter describes magnitude; Mercalli intensity describes observed effects at a place. ×2

Likely ask: What a light year measures (distance, not time), or the unit of sound level (decibel).

MORE UNIT DISTINCTIONS

Inductance — henry The SI unit of inductance; inductance resists changes in current.

Conductance — siemens The SI unit of electrical conductance, the reciprocal of resistance.

Luminous flux — lumen Describes total visible-light output with weighting for human vision.

Illuminance — lux Describes luminous flux falling per unit surface area. ×2

Oil barrel A standard petroleum barrel is about 159 litres. ×2

Cusec and cumec Measure volume flow rate: cubic feet per second and cubic metres per second respectively.

Femtometre Also called a fermi; used for nuclear dimensions.

Plane angle — radian Radian is the SI derived unit of plane angle; steradian is used for solid angle.

Scalar and vector Vector has direction too: displacement, velocity, force. Scalar: distance, speed, mass, energy. A megawatt measures power produced. ×3

Likely ask: Which of these is a vector (displacement, velocity, force).

💡 Units are the language of physics; a question on any topic can turn on the right unit.

⚠ Kelvin measures temperature; joule measures heat energy. Decibel measures a sound level, not the SI sound intensity itself.

Motion, Forces and Gravity

A force can change motion. Inertia resists that change, while momentum is conserved in an isolated system. Action and reaction act on different bodies, so they do not cancel on one body.

MOTION AND CONSERVATION

Starting bus and inertia A passenger leans backward when a bus starts because the body tends to remain at rest.

Sudden braking A passenger lurches forward because the body tends to keep moving.

Rocket propulsion Expelled gas carries momentum backward; the rocket gains forward momentum, even in vacuum. ×8

Walking on a boat The boat moves oppositely when a person walks on it, if external horizontal forces are negligible.

Recoil of a gun The gun recoils opposite to the bullet because total momentum is conserved.

Circular motion A force towards the centre continually changes the direction of velocity. ×2

Moving wind and energy Wind turbines use the kinetic energy of moving air.

Likely ask: Which law explains rocket motion or a gun's recoil (third law, momentum).

GRAVITY AND SPACE

Mass on Earth and Moon Mass remains the same; weight on the Moon is about one-sixth of Earth weight. ×2

Weight at poles For the same body, weight is generally greater at the poles than at the equator. ×2

Orbital weightlessness An orbiting spacecraft and its contents are in continuous free fall. ×9

Falling in vacuum All bodies at the same place fall with the same acceleration when air resistance is absent.

At the top of a vertical throw Velocity is momentarily zero, but gravitational acceleration is still downward.

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Physics 16 themes

Units/Measurement/ Measuring Instruments ×32

×4 The National Science Day is observed on February 28 every year to commemorate → **The Raman effect (28 Feb 1928)**

×3 Relative humidity is measured by → **Hygrometer**

×2 Pyrometer is used to measure → **High Temperature**

×2 The velocity of wind is measured by → **Anemometer**

×2 Which equipment is used to measure blood pressure → **Sphygmomanometer**

×2 Instrument used to measure the intensity of light is called → **Lux meter**

×1 Light year is a unit of → **Astronomical distance**

×1 The 'parsec' is the unit of → **Distance**

×1 Shortest unit of length is → **Fermi meter**

×1 Kilowatt-Hour is unit of → **Electrical energy**

×1 The value of 1 kilowatt hour is → **3.6×10^6 J**

×1 The speed of aircraft and ships are represented in knot. The speed of 100 knot will be → **Equivalent to 115 miles per hour**

×1 The intensity of earthquake is measured → **Richter scale**

×1 How much is one barrel of oil approximately equal to → **159 litres**

×1 'Ringelmann scale' is used to measure density of → **Smoke**

×1 Mercury is generally used in thermometer due to its characteristic of → **High expansion ability**

×1 Which thermometer is known as pyrometer → **Radiation thermometers**

×1 'Pyrheliometer' is used for measuring → **Solar radiation**

×1 The intensity of earthquake is measured by which of the following device → **Seismograph**

×1 Stethoscope, used by doctors works on the principle of → **Reflection of sound waves**

×1 Auxanometer is used to measure the rate of → **Growth**

×1 Photometer is used to measure which one of the following → **The brightness of light**

×1 Which is a vector quantity → **Displacement**

Light ×32

×4 The colour of light is determined by its → **Wavelength**

×3 Blue colour of the sky is due to → **Scattering of light**

×2 Doctors use endoscope to look deep into body. It is based on the following principle → **Total internal reflection of light**

×1 The sunlight from the Sun to the Earth reaches in → **About 8 minutes 20 seconds**

×1 The minimum distance of clear vision for a normal healthy eye of human being is supposed to be → **25 cm**

×1 Light appears to move in a straight line because → **Wavelength of light is small**

×1 Which reflects back more sunlight as compared to other three → **Land covered with fresh snow**

×1 When petrol drops from a vehicle fall over rain water on the road, various colours are seen because of → **Interference of light**

×1 Which is associated with 'Albedo' → **Reflecting power**

×1 Both the marginal spectrum of a rainbow is → **Violet and red**

×1 The band spectrum of visible light is → **Between 390–780 nm**

×1 The light of shortest wavelength is → **Violet**

×1 The colour of a star indicates → **Its temperature**

×1 An air bubble inside water behaves as a → **Divergent lens**

×1 How many images will be formed if a point light source is placed between two parallel plane mirrors → **Infinite**

×1 To look total image of a person, the minimum height of a plane mirror is → **Half of the height of a person**

×1 Radius of curvature of a plane mirror is → **Infinity**

×1 The (Green) grass appears green to us because → **It reflects green colour light to our eyes**

×1 A person with vision defect 'Myopia' can see → **Nearby objects clearly**

×1 Image formed on retina is → **Real, inverted and smaller**

×1 The eye focuses (accommodation) by → **Changing the curvature of its lens**

×1 Among the colours mentioned below the eye is most sensitive to colours between → **Yellow and green**

×1 Human eye is most sensitive for visibility to which wavelength → **5500 Å**

×1 The power of sun glass is → **0 Dioptre**

×1 Red light is used as a danger signal because → **It is scattered least (longest wavelength)**

×1 The reason behind the red colour of sun at sunset → **Scattering of light in the atmosphere of earth**

Sound and Wave Motion ×21

×3 The sound will have highest velocity in → **Steel**

×2 Which wave cannot be transmitted through vacuum → **Sound**

×1 Which electromagnetic radiation is used in remote control of a television → **Infrared**

×1 The technique used to transmit audio signals in television broadcasts is → **Frequency Modulation**

×1 Loudness of sound is measured in terms of following → **Amplitude**

×1 In a Sitar, which type of sound vibrations are produced → **Stationary and Transverse**

×1 Human ear cannot listen to a frequency more than which one of the following frequency → **20,000 cycles/second**

×1 Which represents the decibel level of rustling of tree leaves in normal circumstance → **20 dB**

×1 Which is being not used in night vision camera → **X-ray radiation from objects**

×1 Waves used for telecommunication are → **Microwave**

×1 If Va, Vw and Vs are the speed of sound in air, water and steel respectively, then → **Va < Vw < Vs**

×1 Ultrasonic are the sound waves of frequency → **Greater than 20,000 Hz**

×1 Bats can fly during dark nights and also prey. This is because → **They produce ultrasonic waves and are guided by them**

×1 To hear a clear echo, the minimum distance between the reflecting surface and the observer should be → **17 metres**

×1 CT Scan is done by using → **X-Rays**

×1 The walls of the hall built for music concerts should be → **Absorb sound**

×1 In fiber optic communication the signal travels in the form of → **Light wave**

×1 Which instrument is used for locating submerged objects in an ocean → **SONAR**

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Chemistry 14 topics

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Atoms and Nuclear Chemistry

An element is identified by its proton count. Changing neutrons makes an isotope; changing electrons makes an ion. The nucleus carries almost all the mass of an atom.

PARTICLES AND IDENTITY

Atomic number Number of protons in the nucleus. ×2

Mass number Total number of protons and neutrons.

Electron Negatively charged particle outside the nucleus. ×15

Proton Positively charged nuclear particle. ×7

Neutron Uncharged nuclear particle; discovered by James Chadwick. ×7

Electron–positron pair Particle and antiparticle with equal mass and opposite charge. ×2

Quarks Protons and neutrons contain quarks; quarks are elementary particles.

Nuclear size Typical nuclear dimensions are of order 10^{-15} m.

Likely ask: Which particle has no charge (neutron), or what the atomic number counts.

RELATED ATOMS

Isotopes Same proton count, different neutron counts. ×8

Isobars Different elements with the same mass number.

Isotones Different elements with the same neutron count.

Deuterium Hydrogen isotope with one proton and one neutron. ×2

Heavy water D_2O; nominal molecular mass 20 u; used as a moderator in some reactors. ×6

Likely ask: Isotopes vs isobars vs isotones; heavy water is D_2O.

NUCLEAR PROCESSES

Radioactivity Spontaneous decay of unstable nuclei; a nuclear property. ×8

Alpha radiation Helium nuclei; low penetration but strong ionising power.

Gamma radiation High-energy electromagnetic radiation; no charge or rest mass.

Nuclear fission Splitting a heavy nucleus; used in conventional nuclear reactors. ×5

Nuclear fusion Joining light nuclei; powers the Sun and hydrogen bombs. ×5

Carbon-14 dating Dates once-living material; half-life about 5,730 years. ×4

Uranium–lead dating Used for very old rocks, unlike carbon dating. ×2

Beta-minus radiation An electron emitted in nuclear decay; a neutron changes into a proton.

Half-life Time for half the radioactive nuclei in a sample to decay.

Likely ask: Fission vs fusion, or which method dates rocks (uranium–lead).

💡 The atom's particles decide what an element is and how it behaves.

⚠ Isotopes share atomic number, not mass number; a hydrogen bomb uses fusion.

Periodic Table Records and Metal Properties

The modern periodic table follows atomic number. Elements in a group often have similar outer-electron patterns. Across a period, metallic character generally falls; down a group, atomic size generally rises.

ELEMENT RECORDS

Hydrogen: lightest element Atomic number 1; most abundant element in the universe.

Lithium: lightest metal Lowest density among metals under ordinary conditions. ×3

Fluorine: highest electronegativity Most reactive non-metal in the usual school-level comparison. ×7

Caesium: highly reactive stable alkali metal Reacts violently with water; avoid an unqualified comparison with radioactive francium.

Mercury: liquid metal Hg; liquid at ordinary room temperature.

Bromine: liquid non-metal Br_2; liquid at ordinary room temperature. ×2

Gallium: low melting point Melts at about 29.8°C; can melt in a warm hand.

Osmium: very high density Usually listed as the densest element under ordinary conditions.

Tungsten: highest metal melting point About 3,422°C; used in traditional incandescent bulb filaments. ×2

Silver: best metallic conductor Highest electrical conductivity among metals at room temperature. ×2

More element records Uranium: heaviest natural element · carbon: the basic element of all bio-compounds · sodium reacts at once with water, so it is kept in kerosene. ×3

Silver tarnish Silver turns black in air because hydrogen sulphide forms silver sulphide (2025).

Likely ask: The lightest metal (lithium), or the liquid non-metal (bromine).

ABUNDANCE AND FAMILIES

Oxygen in the crust Most abundant element in Earth's crust by mass.

Aluminium in the crust Most abundant metal in Earth's crust.

Nitrogen in air About 78% of dry air by volume.

Noble gases Group 18; actinium is not a noble gas. ×2

Alkali metals Group 1 metals; generally form +1 ions.

Halogens Group 17; fluorine, chlorine, bromine and iodine belong here.

Likely ask: Most abundant element in the crust (oxygen) and metal (aluminium).

USEFUL METAL BEHAVIOUR

Sodium storage Stored under kerosene to keep air and moisture away. ×6

Gold in native form Low reactivity allows gold to occur in the free state. ×9

Tin coating Tin coats copper utensils; it is not a silver coating.

Sodium vapour lamps Produce characteristic yellow light. ×2

Red phosphorus Used on the striking surface of safety-match boxes. ×4

White phosphorus Toxic and more reactive than red phosphorus; glows during slow oxidation in air. ×2

Likely ask: Why sodium is kept in kerosene.

💡 The periodic table groups elements by behaviour; the records at each end are what get asked.

⚠ Mercury is liquid at 20–25°C; gallium and caesium melt slightly above this range.

Common Compounds: Names and Formulas

A common name may hide the metal ion, the acid radical or water of crystallisation. Learn the chemical name and formula together. Hydrated salts have fixed water molecules within their crystals.

SODIUM AND POTASSIUM COMPOUNDS

Common salt Sodium chloride, NaCl. ×8

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Chemistry 9 themes

Everyday chemistry ×120

×5 Vinegar is an aqueous solution of which one of the following → **Acetic acid**

×3 Purest form of carbon is → **Diamond**

×3 The compound responsible for Bhopal gas tragedy was → **Methyl isocyanate**

×3 Methane is present in the atmosphere of → **Mars**

×3 Which fertilizers leaves maximum acidity in the soil → **Ammonium Sulphate**

×2 Ethylene glycol is the antifreeze for automobile engines.

×2 Ammonia: the pungent smell near urinals; easily soluble in water.

×2 Tulsi has medicinal value because of phenols and flavonoids.

×2 The main pollutants in cigarette smoke: carbon monoxide and benzene.

×2 Trap: 'Rayon — Modified starch' is the wrong pair.

×2 Due to rusting, the weight of iron → **Increases**

×2 Atoms, which have same number of protons but different number of neutrons are called → **Isotopes**

×2 Neutron was discovered by → **Chadwick**

×2 Water pollution in river is measured by dissolved → **Oxygen**

×2 Storage of sodium metal is done in → **Kerosene**

×2 Which substance is called 'Liquid Gold' → **Petroleum**

×2 A polymer used for making nonstick coating for utensils is → **Teflon**

×2 Bronze is an alloy of → **Copper and Tin**

×2 Which acid is present in Apple Fruit → **Malic acid**

×2 After cutting cucumber if salt is added, then water comes out, it is due to → **Osmosis**

×2 Which one is used for preservation in food process → **Benzoic acid**

×2 Which chemicals helps in fruit ripening → **Ethephon**

×2 The recent research station set up in the Antarctica is called → **Bharti**

×2 Solder used in soldering metal pieces is an alloy of → **Tin and Lead**

×2 Which pair of gases is used for the respiratory activities of divers → **Oxygen and Helium**

×2 Refrigeration helps in food preservation by → **Reducing the rate of biochemical reactions**

×2 The most popular fertilizer for foliar application is → **Urea**

×1 Which one is a fundamental particle → **Neutron**

×1 Which particle has zero charge → **Neutrino**

×1 Isotopes are atoms of a substance which has → **Different atomic mass but same atomic number**

×1 Nucleus of atom are → **Proton and neutron**

×1 Which pairs constitutes particle antiparticle pair → **Electron–Positron**

×1 A catalyst → **Speeds up the forward and backward reactions equally**

×1 Goldsmiths use aqua regia, which is prepared by mixing → **Nitric acid + hydrochloric acid**

×1 Milk is an example of → **Emulsion**

×1 Heaviest natural element is → **Uranium**

×1 In nuclear reactors heavy water is used as a → **Moderator**

×1 Heavy water contains → **Deuterium instead of hydrogen**

×1 Both temporary and permanent hardness of water can be removed by → **Distillation**

×1 Which catalyst is used in hydrogenation of vegetable oils → **Nickel**

×1 Which nutrient enhances oil content in mustard → **Sulphur**

×1 Which element glows in dark → **White phosphorus**

×1 Smog is caused by presence of → **Oxides of nitrogen and sulphur**

×1 Helium is preferred over hydrogen in balloons because → **Non-explosive**

×1 Gas used in discharge tubes for decoration is → **Neon**

×1 Sodium vapour lamp is used because → **Monochromatic light**

×1 Which chemical substance is found in bleaching powder → **Calcium oxychloride**

×1 Which metal is accessed in native state → **Gold**

×1 Which is the hardest metal → **Tungsten**

×1 Blue vitriol is used as a → **Fungicide / pesticide**

×1 Indane gas is a mixture of → **Butane and propane**

×1 The smell due to leakage from LPG cylinder is because of → **Ethyl mercaptan**

×1 Biogas mainly consist of → **Carbon dioxide and methane**

×1 Which is the procedure in a biogas plant → **Fermentation**

×1 CNG used in automobiles mainly consist of → **CH_4**

×1 Gasohol is a mixture of → **Gasoline and Ethanol**

×1 Which is a byproduct of petroleum refining → **Asphalt**

×1 Cetane number is used as a quality parameter for → **Diesel**

×1 Octane number is a measure of the quality of → **Petrol**

×1 R.D.X. was invented by → **Henning**

×1 Which was used during First World War → **Mustard gas**

×1 The main constituents of gun powder are → **Saltpetre (potassium nitrate), sulphur and charcoal**

×1 Which polymer is used in making bullet-proof vests → **Kevlar (a polyamide)**

×1 Which polymer is biodegradable polymer → **Nylon 2-nylon 6**

×1 Bisphenol A (BPA) is a structural/key component in manufacture of which plastics → **Polycarbonate**

×1 Polymer of natural rubber is → **Isoprene**

×1 Polythene bags cannot be destroyed because they are made of → **Polymers**

×1 Phenol is used in the manufacture of → **Bakelite**

×1 Teflon is a polymer containing → **Fluorine**

×1 German silver is an alloy of → **Copper, Zinc and Nickel**

×1 Which is main component of cement → **Limestone**

×1 Which form of nitrogen is available in urea → **Amide**

×1 Which compound is called gammexane → **Benzene hexachloride**

×1 Which is also known as 'wood spirit' → **Methyl alcohol**

×1 Molasses is the best raw material for__ → **Power alcohol**

×1 Bee sting causes severe pain and burning sensation due to the presence of → **Methanoic acid**

×1 The chief source of hydrogen sulphide pollutant is → **Decaying vegetation and animal matter**

×1 To avoid 'knocking' of the engine of a car, which one of the following is used as an anti-knocking agent → **Tetraethyl lead**

×1 A powerful eye irritant in the smoke is → **Peroxyacetyle nitrate**

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Biology 14 topics

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Biology Branches, Taxonomy and Evolution

A branch of biology is defined by what it studies. Classification groups organisms by shared characters; each lower rank contains a smaller, more similar set.

FIELDS OF STUDY

Herpetology Studies reptiles and amphibians.

Gerontology Studies ageing and old age; geriatrics concerns care of older people.

Ethology Studies animal behaviour.

Palaeontology Studies ancient life through fossils. ×2

Viticulture Cultivation of grapes; sericulture is silkworm rearing.

Oncology Studies tumours and cancer.

Teratology Studies abnormal embryonic development and birth defects.

More branches Zoology: animals, living and extinct · Neurology: nervous system · Eugenics: improving the human race by genetics. ×4

Likely ask: Match branch and subject: herpetology–reptiles, gerontology–ageing.

CLASSIFICATION RULES

Binomial nomenclature Genus first, species epithet second; genus starts with a capital letter. ×2

Taxonomic hierarchy Kingdom → phylum or division → class → order → family → genus → species.

Three domains Bacteria, Archaea and Eukarya; Archaea are distinct from bacteria.

Prokaryotic cyanobacteria Blue-green algae have no membrane-bound nucleus or chloroplasts. ×11

Viruses outside cellular kingdoms Acellular; multiply only inside suitable host cells. ×2

Order of ranks Kingdom → Phylum (Division) → Class → Order → Family → Genus → Species (2024).

Wholly parasitic class Sporozoa (malaria parasite Plasmodium). Bacteria are seen with a compound microscope. ×2

Likely ask: Who gave binomial names (Linnaeus), or the order of taxonomic ranks.

MECHANISMS AND EVIDENCE

Natural selection Heritable variants with greater reproductive success become more common. ×3

Mutation theory De Vries linked evolution to mutations; modern evolution also includes selection and drift. ×3

Chemical origin of life Oparin–Haldane proposed chemical evolution before the first cells. ×5

Miller–Urey experiment Produced organic molecules under simulated early-Earth conditions, not living cells.

Homologous organs Same basic origin, different functions: human arm and whale flipper.

Analogous organs Similar function, different origin: bird and insect wings.

Genetic drift Random allele-frequency change is strongest in small populations.

Adaptive radiation One ancestral lineage diversifies into different ecological niches.

Mesozoic dinosaurs Dinosaurs dominated much of the Mesozoic; earliest mammals appeared in the Triassic. ×4

Vertebrate sequence Fish preceded amphibians; reptiles preceded birds. ×2

Big Bang and black holes Big Bang explains the origin of the universe (2016). A black hole is a collapsed star (2019). ×2

Smallest ape The gibbon (2016); India's only ape is the hoolock gibbon.

Likely ask: Homologous vs analogous organs, or who gave natural selection (Darwin).

💡 Classification and evolution explain how all life is related.

⚠ Acquired muscles are not inherited as stronger muscles; natural selection acts on existing heritable variation.

Cells, Tissues and Organelles

A cell structure is best remembered by its job. Membranes separate reactions, ribosomes make proteins, and mitochondria release usable energy. Prokaryotes lack membrane-bound organelles but do have ribosomes.

ORGANELLES

Ribosome Non-membranous site of protein synthesis; cytosolic 70S in prokaryotes and 80S in eukaryotes. ×8

Mitochondrion Double membrane; own DNA; major site of aerobic ATP production. ×7

Rough endoplasmic reticulum Ribosomes on its surface make many secreted and membrane proteins.

Smooth endoplasmic reticulum Makes lipids and participates in detoxification; lacks attached ribosomes.

Golgi apparatus Modifies and packages cell products; contributes to lysosome formation. ×4

Lysosome Contains digestive enzymes that work in an acidic interior. ×4

Peroxisome Catalase breaks down hydrogen peroxide; also involved in lipid oxidation.

Nucleolus Makes ribosomal RNA and helps assemble ribosomal subunits.

Chloroplast Double membrane and own DNA; thylakoids carry photosynthetic pigments.

Central vacuole Plant-cell storage and turgor; its membrane is the tonoplast.

Plasma membrane Selectively permeable lipid bilayer with proteins. ×4

Cell wall Plants: cellulose; fungi: chitin; most bacteria: peptidoglycan. ×2

Likely ask: The powerhouse of the cell (mitochondrion), or the suicide bag (lysosome).

TISSUES AND CELL PROCESSES

Ligament and tendon Ligament joins bone to bone; tendon joins muscle to bone.

Xylem Carries water and minerals; vessels and tracheids are dead at maturity. ×3

Phloem Carries sugars from sources to sinks; sieve tubes are living but lack a mature nucleus. ×2

Meristem Actively dividing cells; apical meristems increase length.

Sclerenchyma Usually dead, lignified cells provide mechanical support.

Annual rings Seasonal secondary growth can record tree age; rings are not distinct in every tree.

Osmosis Water crosses a selectively permeable membrane towards lower water potential. ×5

Active transport Moves substances against a gradient using energy.

Mitosis and meiosis Mitosis usually preserves chromosome number; meiosis halves it.

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Biology 32 themes

Human Diseases ×78

×4 Hydroxychloroquine drug used for the treatment of CORONA patients is obtained from the bark of which of the following plants → **Cinchona**

×3 Salk's vaccine is associated with which one of the following diseases → **Polio**

×3 Which disease among these is spread by a protozoa → **Malaria**

×3 The Minamata disease of Japan in 1953 was caused by eating fish contaminated by → **Mercury**

×2 The Indian Biological Data Centre is being set up in which state → **Haryana**

×2 One out of every 200 babies born in India, dies of diarrhoea caused by → **Rotavirus**

×2 Which is a bacterial disease → **Tetanus**

×2 The dengue fever is caused by the bite of which of the following mosquitoes → **Aedes**

×2 The disease caused due to deficiency of iron is known as → **Anaemia**

×2 Quinine, the effective medicine in the treatment of malaria, is extracted from → **Bark of Cinchona**

×2 Apart from quinine, which of the following prescribed medicine is used for the treatment of malaria → **Arteether**

×2 The radioisotope that is used to detect blood clots in the transport system is → **Sodium-24**

×2 Which is used in the treatment of blood cancer → **Phosphorus-32**

×2 Who discovered the polio vaccine → **Jonas Salk**

×2 The triple antigen is given to a child to prevent → **Diphtheria, whooping cough, tetanus**

×2 Tuberculosis is caused by a → **Bacterium**

×2 Sleeping sickness happens due to → **Unicellular animal named Trypanosoma**

×1 Which is affected by Ranikhet disease → **Fowl**

×1 'Cerebral Palsy' is a brain disorder found generally in → **Small children**

×1 Swelling of the membranes on the brain and spinal cord is disease named as → **Meningitis**

×1 The virus responsible for AIDS is an example of → **Retro-virus**

×1 Diseases of which of the following pairs are caused by virus → **Polio and Bird Flu**

×1 The poliovirus enters into the body through → **Polluted food and water**

×1 AIDS is the short form of which of the following diseases → **Acquired Immune Deficiency Syndrome**

×1 Which of these decreases in human body due to dengue fever → **Platelets**

×1 Which is a bird flu virus → **H5N1**

×1 The liver disease Hepatitis-B is caused by → **DNA Virus**

×1 The pathogen responsible for the common cold is → **Rhinovirus**

×1 Which is mRNA vaccine used against Covid-19 infection → **Moderna**

×1 Food poisoning (Botulism) is caused by infection of a species of → **Clostridium**

×1 The disease 'Tetanus' is also known as → **Lock jaw**

×1 Which is a water borne disease → **Cholera**

×1 Three contagious diseases born in developing countries by contaminated water and poor cleanliness → **Malaria, Dysentery and Schistosomiasis**

×1 Which parasite is responsible for 65% of the cases of malaria in India → **P. vivax**

×1 Riboflavin deficiency causes which of the following diseases → **Cheilosis**

×1 Which type of vaccine protect against Diphtheria → **Toxoid**

×1 Sinovac given for Covid-19 is a → **Whole virus vaccine**

×1 Sulpha drug is which of the following types of drug → **Antibacterial**

×1 BCG vaccine should be given to a newborn → **Just after the birth**

×1 Which is an antibiotic drug → **Chloramphenicol**

×1 A specific test for detection of tuberculosis is → **Mantoux Test**

×1 What is the full form of BMD test → **Bone Mineral Density**

×1 Beta-blocker is a medicine for prevention of → **Heart attack**

×1 In which of the following departments of a hospital are Cath labs located → **Cardiology**

×1 Diseases of inner parts of the human body are diagnosed through → **Endoscope**

×1 Electron ray therapy is a type of radiation therapy for the treatment of → **Particular type of cancer**

×1 The radio isotope used to detect tumor is → **As-74/Arsenic-74**

×1 "Sankalp" project is associated with the eradication of → **AIDS/HIV**

×1 The disease in which high levels of uric acid in the blood, is → **Gout**

×1 Which disease is caused by the excessive use of alcoholic beverage → **Liver cirrhosis**

×1 Sleep apnea is a serious sleep disorder, in which people → **briefly and repeatedly stop breathing during sleep**

×1 The 'mad cow' disease is caused by → **Prions**

×1 Emphysema is a disease caused by environmental pollution and the affected organ of the body is → **Lungs**

×1 Leukemia is a type of cancer in which there is an abnormal increase in the number of → **White blood cells**

×1 Itai-Itai disease is caused by chronic poisoning of → **Cadmium**

×1 'Blue baby syndrome' is due to the presence of which of the following in the blood → **Methemoglobin**

Human Physiology ×52

×4 Of the following which hormone is associated with 'fight or flight' concept → **Adrenaline**

×3 Pace maker is related to → **Heart**

×2 When does heart take rest → **Between two beats**

×2 The pulse in the human wrist beats → **At the same rate as the heart**

×2 During respiration energy is produced in the form of → **ATP**

×2 Which hormones contains iodine → **Thyroxine**

×2 What is thyroxine → **Hormone**

×1 Which organ is vestigial in human body → **Appendix**

×1 Which hormone stimulates the pancreas to produce digestive juices → **Secretin**

×1 In human body most of the digestive process takes place in → **Small intestine**

×1 The "Pace Maker" is also knows as → **S. A. Nodes**

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Science & Tech 10 topics

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ISRO: launchers, satellites and centres

A launch vehicle carries a payload into space. A satellite is the payload. Match each vehicle with its role and each satellite with its main service.

LAUNCH VEHICLES

SLV-3 An early Indian launcher; placed Rohini RS-1 in orbit in 1980. ×2

PSLV Polar Satellite Launch Vehicle; widely used for remote-sensing missions. ×2

GSLV Mk II Three-stage launcher with an indigenous cryogenic upper stage. ×2

LVM3 Earlier called GSLV Mk III; launched Chandrayaan-2 and Chandrayaan-3. ×2

SSLV Small Satellite Launch Vehicle; designed for small satellite launches.

Cryogenic rocket stage Indian cryogenic upper stages use liquid oxygen and liquid hydrogen at very low temperatures. ×3

Likely ask: Which launcher has an Indian cryogenic stage (GSLV), or India's first launcher (SLV-3).

SATELLITES AND SERVICES

Aryabhata satellite India's first satellite; launched by the Soviet Union in 1975.

IRS-1A India's first operational remote-sensing satellite; launched from Baikonur in 1988.

INSAT system Provides communication, broadcasting and meteorological services. ×4

Kalpana-1 Meteorological satellite originally named METSAT.

EOS-01 Earth observation for agriculture, forestry and disaster support; not artificial rain.

RISAT-2 Radar imaging satellite launched by PSLV-C12 in 2009 alongside ANUSAT.

NavIC Navigation with Indian Constellation; India's regional satellite navigation system.

GAGAN GPS Aided GEO Augmented Navigation; supports accurate civil aviation navigation.

APPLE Ariane Passenger Payload Experiment; experimental communication satellite launched in 1981.

GSAT-10 India's heaviest communication satellite at its launch, September 2012 (Ariane 5).

Likely ask: India's first satellite (Aryabhata, 1975), or what NavIC does.

ISRO INSTITUTIONS

ISRO headquarters Indian Space Research Organisation; headquarters in Bengaluru. ×3

Vikram Sarabhai Space Centre Thiruvananthapuram; major launch-vehicle development centre.

U R Rao Satellite Centre Bengaluru; formerly ISRO Satellite Centre, responsible for satellite development.

Space Applications Centre Ahmedabad; develops space applications and payloads.

National Remote Sensing Centre Hyderabad; processes and supplies remote-sensing data.

Satish Dhawan Space Centre Sriharikota, Andhra Pradesh; India's principal satellite launch site. ×7

IN-SPACe Indian National Space Promotion and Authorization Centre; facilitates and authorises non-government space activities.

NewSpace India Limited NSIL is a public-sector company under the Department of Space for commercial space services.

Likely ask: Where ISRO's headquarters (Bengaluru) or launch pad (Sriharikota) is.

RECENT (2024 ONWARDS)

NISAR satellite (2025) NASA–ISRO radar satellite with L-band and S-band; launched by GSLV-F16 from Sriharikota on 30 July 2025.

100th launch from Sriharikota (2025) GSLV-F15 carried the navigation satellite NVS-02 on 29 January 2025.

Likely ask: What NISAR is (NASA–ISRO radar satellite, 2025).

💡 ISRO's launchers and satellites are asked by name, purpose and year.

⚠ SLV-3 is a launch vehicle, not a satellite. The satellite construction centre is in Bengaluru, not Sriharikota.

Moon, Mars, Sun and human spaceflight

Separate a flyby, an orbiter, a lander and a rover. Reaching a planet does not mean landing on it; returning samples is a separate achievement.

INDIAN MISSIONS

Chandrayaan-1 India's first lunar mission, launched in 2008; carried NASA's Moon Mineralogy Mapper.

Chandrayaan-2 Launched in 2019 with an orbiter, Vikram lander and Pragyan rover; the lander did not achieve a soft landing. ×2

Chandrayaan-3 Vikram and Pragyan achieved a lunar soft landing on 23 August 2023 in the south polar region.

National Space Day 23 August commemorates Chandrayaan-3's landing; the first National Space Day was observed in 2024.

Mars Orbiter Mission Mangalyaan launched in 2013 and entered Mars orbit in 2014.

Aditya-L1 India's solar observatory; launched in September 2023 to study the Sun from near Sun–Earth L1.

Gaganyaan ISRO's programme for Indian human spaceflight in low Earth orbit.

Vyommitra Humanoid developed for uncrewed tests associated with Gaganyaan.

Likely ask: Where Chandrayaan-3 landed (near the south pole), or Aditya-L1's point (L1).

WORLD EXPLORATION

Chang'e-5 Chinese mission launched in November 2020; returned lunar samples to Earth.

Apollo 11 NASA mission that first landed humans on the Moon in July 1969.

Luna 2 Soviet probe; first human-made object to reach the Moon, in 1959.

Luna 9 Soviet mission; first successful soft landing on the Moon, in 1966.

Curiosity rover NASA rover that landed on Mars in 2012; studies past habitability.

Perseverance rover NASA rover that landed on Mars in 2021; collects rock samples and seeks signs of ancient life.

Ingenuity helicopter Made the first powered, controlled flight on another planet, Mars, in 2021.

Parker Solar Probe NASA probe launched in 2018 to study the Sun's outer atmosphere.

Likely ask: The first humans on the Moon (Apollo 11, 1969).

HUMAN SPACEFLIGHT MILESTONES

Vostok 1 Yuri Gagarin became the first human in space in 1961.

Vostok 6 Valentina Tereshkova became the first woman in space in 1963.

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Science & Tech 6 themes

Computer and Information Technology ×23

×2 Which is the main electronic component of third generation computer → **Integrated circuit**

×2 In computer hardware which is made up of silicon can store data in a very large amount, it is called → **Chip**

×1 Computer Literacy Day is observed on → **2nd December**

×1 The first computer was made by → **Charles Babbage**

×1 Which is a super computer project developed by Bhabha Research Center → **Anupam**

×1 Which product is being sold as 'Pentium' brand → **Microprocessor**

×1 I.C. Chips for computers are usually made of → **Silicon**

×1 The base of classification of IC is → **Number of transistors**

×1 Which laser type is used in laser printer → **Semiconductor laser**

×1 Daisy wheel printer is type of → **Impact printer**

×1 Which is fastest computer memory → **Cache memory**

×1 1 Kilobyte is equivalent to → **1024 Byte**

×1 In computer, permanent memory is called → **ROM**

×1 The data of which short term memory expires automatically after the computer power is switched off → **RAM**

×1 Basic is which of the following language → **Procedural**

×1 Which program controls the basic functions of the computer → **Operating system**

×1 The multiple use of an operating system at a given time is called → **Multi tasking**

×1 "Blue tooth" technology allows → **Wireless communication between equipments**

×1 The layer between physical layer and network layer is known as → **Data link layer**

×1 Full form of WWW is → **World Wide Web**

×1 Meaning of ICT is → **Information and Communication Technology**

Space Technology ×16

×2 Which launching vehicles was used in Chandrayaan-2 Mission → **GSLV MK-III**

×2 Satellite is kept moving in its orbit around the Earth; it is due to → **Centripetal force**

×2 Which has been given the name Kalpana-1 → **METSAT**

×2 A geostationary satellite has a period of → **24 hours**

×2 The First Satellite of India sent to space, was → **Aryabhata**

×1 A satellite moves in its orbit continuously. It is due to the effect of centripetal force which is derived from → **Gravitational force applied by earth on satellite**

×1 What is source of electrical energy in an artificial satellite → **Solar cells**

×1 An astronaut cannot hear his companion at the surface of the moon because → **There is no medium for sound propagation**

×1 First Indian remote sensing satellite was launched from → **Baikonur**

×1 NASA-U.S. space agency, has launched a telescope named 'Kepler' to find out → **Earth like planets**

×1 INSAT-3C was launched from → **Kouru**

Computers ×8

×4 A modem links a computer to the telephone line by turning data into signals.

×2 The CPU is the "brain" of the computer.

×2 Computer memory and word length are measured in bits (bytes).

Defence Technology ×8

×2 The ICBM developed by India, with a strike range of more than 2000 km, is given the name → **Agni-II**

×2 The name of the air-to-air missile successfully launched from Balasore in May 2003 was → **Astra**

×1 An artificial satellite can be tracked very precisely from the earth by using → **Doppler Effect**

×1 RADAR is used for → **Locating objects by radio waves**

×1 Name of the tank which was made in India → **Arjun**

×1 Which is an indigenously built light combat aircraft → **Tejas**

Genetic Engineering and Bio-Technology ×7

×1 Which techniques can be used to establish the paternity of a child → **DNA fingerprinting**

×1 In AIDS virus, there is → **RNA + Protein**

×1 In gene therapy, to correct the function of a faulty gene → **whole flawed genes are replaced with correct genes**

×1 Asia's first human DNA bank is established at → **Lucknow**

×1 Which is used in Genetic Engineering → **Plasmid**

×1 Codon to start protein synthesis → **AUG**

×1 The globally programmed 'Human Genome Project' deals with → **Identification and mapping of human genes and gene sequences**

Space ×2

×2 Stars shine by nuclear fusion and gravitational contraction.

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Economy 10 topics

Green: asked in UPPCS (×n = how many times) | Red: not asked yet, highest chance of a new question | Orange: asked in UPSC / other PCS, not yet in UPPCS

Planning and NITI Aayog

India planned through Five Year Plans from 1951 to 2017; NITI Aayog replaced the Planning Commission on 1 January 2015.

PLANS BEFORE INDEPENDENCE

Visvesvaraya "Planned Economy for India" (1934), the first plan idea.

National Planning Committee (1938) Set up by the Congress under Subhas Bose; chaired by Nehru.

Bombay Plan (1944) Eight industrialists including J. R. D. Tata and G. D. Birla.

Gandhian Plan (1944) Shriman Narayan Agarwal (2015).

People's Plan and Sarvodaya Plan People's Plan (1945): M. N. Roy · Sarvodaya Plan (1950): Jayaprakash Narayan.

Gandhi and planning Mahatma Gandhi opposed centralised, planned development (2019).

Likely ask: Match the plan with its author: Gandhian–Shriman Narayan Agarwal, People's–M. N. Roy.

PLANNING COMMISSION AND NDC

Planning Commission 15 March 1950 by a Cabinet resolution, not by law; the PM was chairman; called the "economic cabinet". Abolished 2014. ×2

National Development Council 6 August 1952; PM + Chief Ministers; approved the Five Year Plans.

Years with no Five Year Plan Seven: plan holiday 1966–69, 1979–80 (rolling plan years) and 1990–92.

Likely ask: How the Planning Commission was set up (a Cabinet resolution, 1950).

FIVE YEAR PLANS

First Plan (1951–56) Agriculture first; Harrod–Domar model.

Second Plan (1956–61) Heavy industry; P. C. Mahalanobis model.

Third Plan (1961–66) Self-reliance; failed due to wars and drought, then the plan holiday.

Fourth Plan (1969–74) Growth with stability; Gadgil formula for central aid; growth-centre approach.

Fifth Plan (1974–79) "Garibi Hatao"; ended a year early. Order: bank nationalisation 1969 → Garibi Hatao 1971; Green Revolution began 1966 (2016).

Sixth and Seventh Plans Sixth (1980–85): poverty removal, IRDP. Seventh (1985–90): food, work and productivity.

Eighth Plan (1992–97) After the 1991 reforms; human development as the core.

Ninth and Tenth Plans Ninth (1997–2002): growth with social justice, 6.5% target. Tenth (2002–07): 8% target, monitorable targets.

Eleventh Plan (2007–12) Faster and more inclusive growth; 9% target; IMR target 28 per 1,000 (2017).

Twelfth Plan (2012–17) Faster, more inclusive and sustainable growth; 8% target; the last Five Year Plan (2018).

Likely ask: Which plan focused on heavy industry (Second) or sustainable growth (Twelfth).

NITI AAYOG

NITI Aayog National Institution for Transforming India, 1 January 2015; PM chairperson; first Vice-Chairman Arvind Panagariya; Governing Council of CMs and LGs. ×5

NITI's own bodies Atal Innovation Mission (2016) (2020) · DMEO, which evaluates schemes, is an attached office of NITI (2020). ×2

Aspirational Districts (2018) 112 backward districts; 8 in UP: Bahraich, Balrampur, Shravasti, Siddharthnagar, Sonbhadra, Chitrakoot, Fatehpur, Chandauli (2021).

SDG nodal body NITI Aayog coordinates the SDGs and publishes the SDG India Index (2019).

Likely ask: Who heads NITI Aayog (the PM), or its first Vice-Chairman (Arvind Panagariya).

💡 Planning decided what India built first: farms, then heavy industry, then jobs and welfare; each plan's focus is what gets asked.

⚠ The Gandhian Plan is Shriman Narayan Agarwal's, not Gandhi's own. The Mahalanobis model is the Second Plan, not the First. NITI Aayog has no power to allot funds to States.

National Income and Growth

GDP counts what is produced inside India; national income (NNP at factor cost) is what Indians earn. India's economy is mixed and led by services.

NATURE OF THE ECONOMY

Mixed economy Public and private sectors side by side; India is a mixed, developing economy (2024).

Sectors Primary: farming, forestry, fishing, mining · secondary: manufacturing, construction, power · tertiary: trade, transport, finance, real estate. Services > industry > agriculture in GDP.

Economic activity Activity done for money or output; voluntary social service is not one (2023).

$5 trillion target Set in 2019 for 2024–25; now expected later in the decade.

Likely ask: What "mixed economy" means (public and private sectors together).

MEASURING NATIONAL INCOME

GDP, GNP, NNP GDP: output within borders · GNP = GDP + net factor income from abroad · NNP = GNP − depreciation · national income = NNP at factor cost.

Three methods Production (value added), income and expenditure methods.

Who estimates The National Statistics Office (earlier CSO) under MoSPI; base year 2011-12 (a 2022-23 series is the planned replacement).

First estimates Dadabhai Naoroji (1867–68, "Poverty and Un-British Rule in India"); first official: National Income Committee (1949), P. C. Mahalanobis.

Real and nominal If prices and money income both double, real income stays the same. Per-capita income is the usual measure of development. ×3

Likely ask: GNP vs NNP, or which is not a method of measuring GDP.

GROWTH AND CAPITAL

Growth records Fastest years: 2006-07 (about 9.6%, old series) and 2021-22 (9.7%, after COVID); 1997-98 saw a slowdown (A–R).

Hindu rate of growth About 3.5% a year from 1950 to 1980; term by Raj Krishna.

Capital formation and savings Depends on savings and the financial system; the household sector saves the most (2021).

Factors of growth Capital, technology, population and division of labour; human capital pays off later (A–R 2025). ×3

Economic Survey Prepared by the Finance Ministry's Chief Economic Adviser before the Budget; a sustainable development chapter first came in 2011-12 (2015); "Chakravyuha challenge" in 2015-16. ×2

Likely ask: What the Hindu rate of growth means, or what capital formation depends on.

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Economy 9 themes

Census ×93

×8 Urban population grew fastest in 1971–81.

×7 Nagaland grew fastest in 1991–2001 and fell in 2011.

×7 Mizoram is second in literacy after Keralam.

×6 Daman and Diu has the lowest sex ratio (618).

×5 UP is the most populous state; then Maharashtra, Bihar, West Bengal.

×5 Tamil Nadu was the key for "most urbanised state" (Goa is higher overall).

×4 Urban share of India in 2011: 31.16%; Himachal has the lowest urban share.

×4 Replacement-level fertility: TFR 2.1.

×4 The four most populous States of India are → **Uttar Pradesh, Maharashtra, Bihar, West Bengal**

×3 Highest decadal growth: 1961–71; 1921 = year of the great divide.

×3 Bihar is the densest state; Keralam has the highest sex ratio and Haryana the lowest; women outnumber men in Puducherry.

×3 India has 17.5% of the world's people; Maldives is the densest SAARC country.

×3 According to the Census of India 2011, the percentage growth of population in the country during the period of 2001-2011 was → **17.70**

×3 After Uttar Pradesh which of the following States in the country has the largest population → **Maharashtra**

×3 During the period 1991-2001, the decadal growth rate of population (in percentage terms) was lowest in the State of → **Keralam**

×3 In India, the lowest sex-ratio is found in the Union territory of → **Daman and Diu**

×3 Which State has the largest number of people belonging to Scheduled Caste → **Uttar Pradesh**

×3 As per 2011 Census, the percentage of urban population to total population in India was → **31.16**

×2 The decadal growth rate of population in India has been lowest during → **2001 – 2011**

×2 Which State has the largest population → **Uttar Pradesh**

×2 Which State of India has recorded the maximum increase in literacy rate during 2001-2011 → **Bihar**

×2 As per Census 2011, which among the following Indian States recorded lowest female literacy → **Rajasthan**

×2 The largest percentage share of the Scheduled Castes population is in → **Punjab**

×2 Under the National population Policy, 2000, the goal to attain population stagnation has been raised from 2045 to → **2070**

×2 What is the estimated replacement reproduction level per married couple to obtain the zero population growth → **2.1**

×2 What percentage of the total population of the world resides in India as estimated in the years 2011 → **17.5**

Banking and markets ×43

×5 "Insider trading" belongs to the share market.

×4 SBI is the largest commercial bank.

×4 Gilt-edged market = market for government securities.

×4 Decimal coinage came in 1957.

×3 Sensex is based on 30 companies.

×3 Open market operations = RBI buying and selling government securities.

×3 IRDAI regulates insurance companies.

×3 CPI is the common measure of inflation (headline inflation).

×2 In India 'Currency Notes issue system' is based on → **Minimum reserve system**

×2 The Banker's Bank is → **Reserve Bank of India**

×2 Open market operations of Reserve Bank of India refer to → **trading in securities**

×2 The rate of interest at which Reserve Bank of India lends short term funds to the Commercial Banks is known as → **Repo Rate**

×2 Which agency regulate the mutual funds in India → **SEBI**

×2 'BSE Sensex' is an index to measure ups and downs in the share market. The number of companies covered under the index are → **30**

×2 The Rural Infrastructure Development Fund (RIDF) has been created under ; → **NABARD**

SDGs and schemes ×40

×5 Sarva Shiksha Abhiyan covers ages 6–14.

×4 Swadhar is for women in difficult circumstances.

×4 Swarnajayanti Gram Swarozgar Yojana began in 1999 (it merged IRDP, TRYSEM, DWCRA; JRY was not part of it).

×4 Unorganised Workers' Social Security Act: 2008.

×3 Space research is not an SDG; SDG 6 water, 13 climate, 14 sea, 15 land.

×3 National Rural Health Mission: 12 April 2005.

×3 Bharat Nirman (2005) did not include sanitation.

×3 NABARD runs the Rural Infrastructure Development Fund.

×3 'Swadhar' is the scheme for → **Women in difficult circumstances**

×2 National Food Security Act: 75% rural, 50% urban people.

×2 ICDS does not cover family planning.

×2 The National Rural Health Mission was launched on → **April 12, 2005**

×2 In which one of the following years the Unorganised Workers' Social Security Act was passed → **2008**

National income and sectors ×40

×4 Tertiary sector: trade, transport, finance, real estate (not forestry or fishing).

×4 National income is estimated by the National Statistics Office (old keys said the Planning Commission).

×3 Order of GDP share: services > industry > agriculture; agriculture's share keeps falling.

×3 Mixed economy = public and private sectors together.

×3 The Hindu rate of growth refers to national income growth (about 3.5%).

×3 Per-capita income is the best measure of economic development.

×3 Dadabhai Naoroji first estimated per-capita income: ₹20 (1867-68).

×3 In which State of India, the female-male ratio is more than 1000 → **Keralam**

×2 Which is main characterstics of Indian Economy → **Mixed economy**

×2 That the Per Capita Income in India was Rs. 20 in 1867-68, was ascertained for the first time by → **Dadabhai Naoroji**

×2 Which sectors contribute the most in savings in India → **Household sector**

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UP Special 6 topics

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Location, Districts and Divisions

UP has 18 divisions and 75 districts. Every paper since 2021 asks at least one district question: smallest district, a division's districts, or a border fact.

LOCATION AND BORDERS

Size and place 2,40,928 km^2 (7.33% of India), 4th by area after Rajasthan, MP, Maharashtra. 23°52'N–31°28'N; the Tropic of Cancer does not cross UP (2017); the IST line passes near Mirzapur and Naini.

Neighbours 8 states + Delhi + Nepal; longest border with MP (11 districts), shortest with Himachal (only Saharanpur). Seven districts touch Nepal: Pilibhit, Lakhimpur Kheri, Bahraich, Shravasti, Balrampur, Siddharthnagar, Maharajganj.

Corner districts North: Saharanpur · south: Sonbhadra · east: Ballia · west: Shamli. Sonbhadra touches MP, Chhattisgarh, Jharkhand and Bihar. ×2

Only one UP neighbour Lalitpur borders only Jhansi in UP; MP surrounds it on three sides (2025).

Likely ask: Which UP district touches four states (Sonbhadra), or which state shares UP's longest border (MP).

DISTRICTS: RECORDS AND NAMES

Largest and smallest Largest: Lakhimpur Kheri (7,680 km^2) > Sonbhadra > Hardoi > Sitapur > Prayagraj. Smallest: Hapur (660 km^2) (2021).

Newest districts (2011) Hapur (from Ghaziabad), Shamli (from Muzaffarnagar), Sambhal (from Moradabad and Budaun).

Renamed Allahabad → Prayagraj and Faizabad → Ayodhya (2018) · Panchsheel Nagar → Hapur · Bhim Nagar → Sambhal · Jyotiba Phule Nagar → Amroha · Mahamaya Nagar → Hathras · Kanshiram Nagar → Kasganj. ×2

District headquarters Jalaun: Orai · Sonbhadra: Robertsganj · Kaushambi: Manjhanpur · Kushinagar: Padrauna · Sant Kabir Nagar: Khalilabad · Siddharthnagar: Naugarh.

NCR districts Eight: Meerut, Ghaziabad, Gautam Buddh Nagar, Bulandshahr, Hapur, Baghpat, Shamli, Muzaffarnagar.

Likely ask: Which district is smallest by area (Hapur) or largest (Lakhimpur Kheri).

THE 18 DIVISIONS

West Saharanpur: Saharanpur, Muzaffarnagar, Shamli · Meerut: Meerut, Baghpat, Bulandshahr, Gautam Buddh Nagar, Ghaziabad, Hapur · Moradabad: Moradabad, Amroha, Bijnor, Rampur, Sambhal · Bareilly: Bareilly, Budaun, Pilibhit, Shahjahanpur.

Braj and centre Agra: Agra, Firozabad, Mainpuri, Mathura · Aligarh: Aligarh, Etah, Hathras, Kasganj · Kanpur: Kanpur Nagar, Kanpur Dehat, Auraiya, Etawah, Farrukhabad, Kannauj · Lucknow: Lucknow, Hardoi, Lakhimpur Kheri, Rae Bareli, Sitapur, Unnao.

Bundelkhand and south Jhansi: Jhansi, Jalaun, Lalitpur · Chitrakoot Dham: Banda, Chitrakoot, Hamirpur, Mahoba · Prayagraj: Prayagraj, Fatehpur, Kaushambi, Pratapgarh · Mirzapur: Mirzapur, Bhadohi, Sonbhadra. ×2

East Ayodhya: Ayodhya, Ambedkar Nagar, Amethi, Barabanki, Sultanpur · Devipatan: Gonda, Bahraich, Balrampur, Shravasti (2025) · Basti: Basti, Sant Kabir Nagar, Siddharthnagar · Gorakhpur: Gorakhpur, Deoria, Kushinagar, Maharajganj · Azamgarh: Azamgarh, Ballia, Mau · Varanasi: Varanasi, Chandauli, Ghazipur, Jaunpur.

Likely ask: Which districts are in Devipatan division (Gonda, Bahraich, Balrampur, Shravasti).

PHYSICAL UP

Relief Shivalik hills in Saharanpur (Amsot peak 957 m); Bhabar and Tarai at the foothills; the Ganga plain (khadar = new alluvium, bangar = old); southern plateau of Bundelkhand and Vindhya–Kaimur.

Regions Four economic regions: Western (30 districts), Eastern (28), Central (10), Bundelkhand (7: Jhansi, Jalaun, Lalitpur, Mahoba, Chitrakoot, Banda, Hamirpur). Western UP is the most developed (2022). ×3

Climate and rain Tropical monsoon; Gorakhpur gets the most rain, Mathura the least; western disturbances bring winter rain for rabi. Agra and Darjeeling lie on nearly the same latitude but differ in temperature because of height (A–R 2022).

Agro-climatic zones UP has 9 agro-climatic zones (2017); the Upper Gangetic Plain region covers central and western UP (2024). ×2

Likely ask: Where UP's highest peak is (Amsot, Saharanpur), or which region is Bundelkhand.

💡 District questions test the map in your head, so learn districts division by division with their border facts.

⚠ Hapur is the smallest district, not Hathras. Basti is its own division, not part of Devipatan. Lalitpur touches only one UP district (Jhansi).

UP Census 2011

UP is India's most populous state: 19.98 crore people, 16.5% of India. UPPCS asks UP figures and district extremes.

UP TOTALS

Population 19,98,12,341 (16.5% of India); 1st in India and larger than Pakistan or Bangladesh; growth 20.2% (2001–11) (2015, 2021, 2024). ×3

Literacy 67.7% (male 77.3%, female 57.2%); the 2015 key used the provisional 69.72%.

Density and sex ratio Density 829 per km^2 (India 382); sex ratio 912 (India 943); child sex ratio 902.

Rural and urban 77.7% rural (largest rural population in India, 2018); 22.3% urban.

SC and ST SCs 20.7% (largest SC population in India; most in Sitapur) · STs only 0.6% (most in Sonbhadra); Tharu is the largest tribe. ×2

Likely ask: UP's share of India's population (16.5%) or its literacy rate.

DISTRICT EXTREMES

Most and least people Most: Prayagraj > Moradabad > Ghaziabad > Azamgarh > Lucknow · least: Mahoba.

Density Highest: Ghaziabad (3,971) > Varanasi > Lucknow · lowest: Lalitpur (242). ×2

Literacy Highest: Gautam Buddh Nagar (80.1%) > Kanpur Nagar · lowest overall and female: Shravasti (46.7%; women 34.8%) (2018). ×3

Sex ratio and growth Highest sex ratio: Jaunpur (1,024) > Azamgarh > Deoria · fastest growth: Gautam Buddh Nagar (49%) · most minorities: Rampur.

Likely ask: Which district has the lowest female literacy (Shravasti) or the highest density (Ghaziabad).

CITIES

Million-plus cities Seven: Kanpur, Lucknow, Ghaziabad, Agra, Varanasi, Meerut, Prayagraj (India has 53) (2020). ×2

City order (2011) Lucknow 28.2 lakh > Kanpur 27.7 lakh > Ghaziabad 16.5 lakh > Agra 15.9 lakh (2022). ×2

City nicknames Varanasi: cultural capital, city of ghats · Kanpur: "Manchester of the East" · Firozabad: Suhag Nagri · Malihabad: mango capital · Kannauj: perfume city.

Likely ask: Arrange UP cities by population (Lucknow > Kanpur > Ghaziabad > Agra).

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UP Special 5 themes

UP history ×8

×5 Harappan sites in UP: Alamgirpur, Hulas, Mandi, Sanauli.

×3 1857 leaders: Hazrat Mahal (Lucknow), Khan Bahadur Khan (Bareilly), Liaqat Ali (Allahabad), Nana Saheb (Kanpur).

UP economy ×5

×3 Singrauli NTPC plant is at Shaktinagar, Sonbhadra.

×2 ODOP: Moonj products are Amethi's and Sultanpur's.

UP census ×3

×3 UP is the most populous state: 19.98 crore, 16.5% of India.

UP wildlife ×2

×2 Ramsar sites not in UP: Surinsar-Mansar, Rudrasagar, Sultanpur.

UP polity ×2

×2 UP has 80 Lok Sabha and 31 Rajya Sabha seats.

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