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Day 34

Available topics: revision and practice

9 topics available | 18 practice questions

Topic 337 is pending and is not included in these files.

331. Delhi Sultanate: Slave dynasty from Aibak to Balban 2

332. Election Commission of India: composition, powers and independence 16

333. UN specialised agencies: WHO, UNESCO, ILO and FAO, structures and ... 32

334. Schedule XIII promises: Visakhapatnam railway zone, Kadapa steel p... 50

335. Sustainable development: concept and the Brundtland Report 65

336. Climate of India: seasons and controlling factors 76

338. Problem solving: steps and techniques 93

339. Pipes and cisterns 110

340. Diego Garcia and the Chagos Archipelago: the UK·Mauritius treaty 125

English and Telugu notes and MCQs are supplied separately.

Early Turkish rulers: power and succession

Concept in one line

From 1206 to 1290 the Delhi Sultanate was ruled by sultans of slave (mamluk) origin and their families, from Qutbuddin Aibak, who took over Muhammad of Ghur's Indian conquests, to Balban, who broke the power of the Forty and stood on guard against the Mongols.

2.1 One dynasty, three names

Early Turkish rulers:

The rulers of 1206–1290 are known as the early Turkish rulers.

"Slave" and "Mamluk":

The dynasty is also called the Ghulam or Slave dynasty. Its founder Aibak had been a military slave of Muhammad of Ghur; the rulers were not all members of one family.

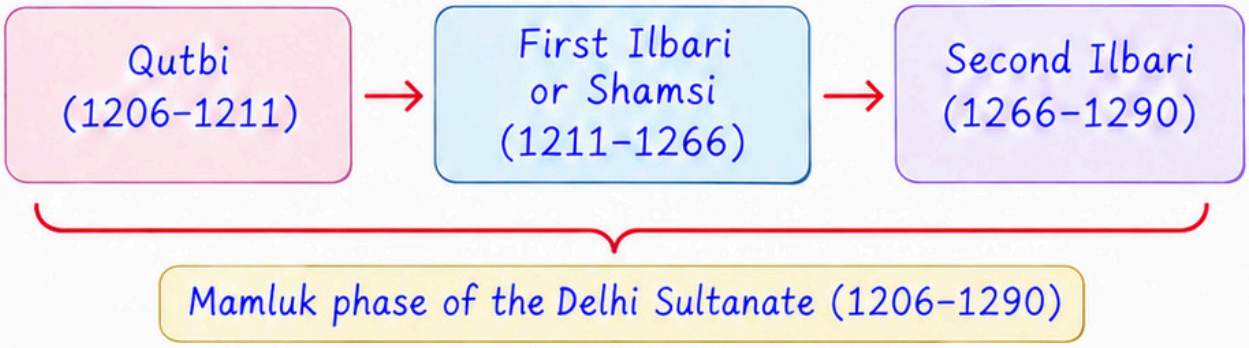
Meaning of mamluk:

The Arabic word means "owned"; in this context it refers to slaves trained for military service, distinct from domestic servants and artisans.

Ilbari:

Three distinct ruling houses are distinguished: Qutbi (1206–1211), first Ilbari or Shamsi (1211–1266), and second Ilbari (1266–1290). The "Slave dynasty" was not a single family.

Timeline 1206–1290 with three ruling houses

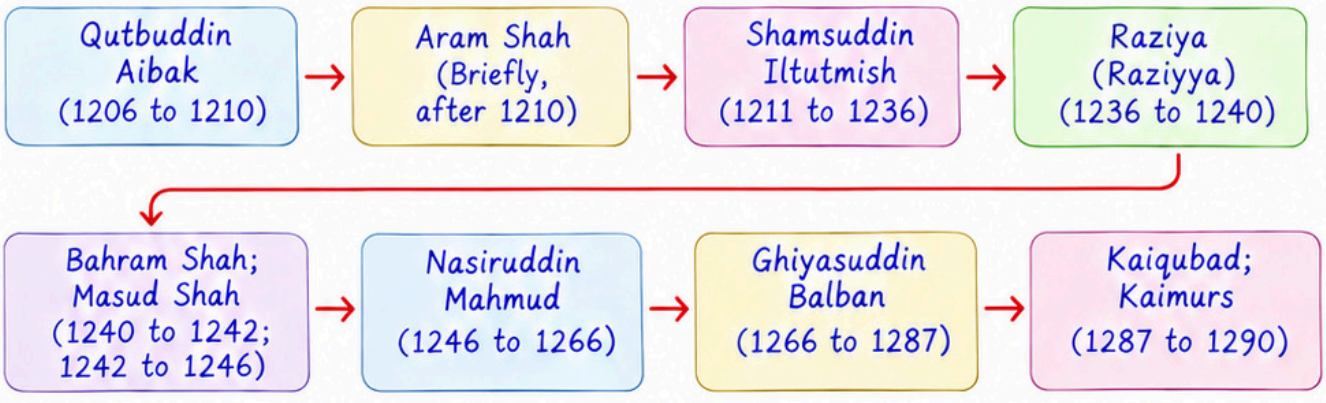


Rulers at a glance

2.2 The rulers at a glance

Ruler	Reign	How he or she came to power	One key act
Qutbuddin Aibak	1206 to 1210	A Turkish slave of Muhammad of Ghur who rose to high rank; the Indian conquests passed to him on Muhammad's death in 1206	Ruled from Lahore
Aram Shah	Briefly, after 1210	Raised to the throne at Lahore by a few amirs	Defeated by Iltutmish
Shamsuddin Iltutmish	1211 to 1236	A slave who married Aibak's daughter; governor of Badayun, invited by the Turkish chiefs of Delhi	Letter of investiture from the Abbasid Caliph, 1229
Raziya (Raziyya)	1236 to 1240	Nominated by her father Iltutmish; won the throne after her brother Ruknuddin Firoz's brief rule, with the support of the people of Delhi and some military leaders	Appointed the Abyssinian Jamaluddin Yaqut master of the horses (amir-i-akhur)
Bahram Shah; Masud Shah	1240 to 1242; 1242 to 1246	Made and removed by the nobles	Succession dominated by powerful nobles
Nasiruddin Mahmud	1246 to 1266	A member of Iltutmish's family, raised to the throne in 1246 with the support of Ulugh Khan, later Balban	Ruled with Balban as his naib (deputy)
Ghiyasuddin Balban	1266 to 1287	A junior member of the Forty; naib to Nasiruddin Mahmud, then sultan	Insisted on sijda and paibos at court
Kaiqubad; Kaimurs	1287 to 1290	Balban's grandson Kaiqubad was raised by the nobles; Kaimurs replaced him	The line ended with the Khalji coup of 1290

Timeline: Rulers in chronological order (reign)



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Aibak: from general to Sultan

2.3 Qutbuddin Aibak (1206 to 1210)

From general to ruler:

A Turkish military slave, Aibak rose to high rank in Muhammad Ghori's army. Following Ghori's death in 1206, he took power at Lahore over the Indian territories and established the Delhi Sultanate.

Capital:

Aibak ruled from Lahore after moving from the Delhi region. Delhi had been his headquarters during the subjugation of the Ganga–Yamuna region. In 1208 he captured Ghazna but was soon driven out.

Lakh Baksh:

he was known by this name for his generosity.

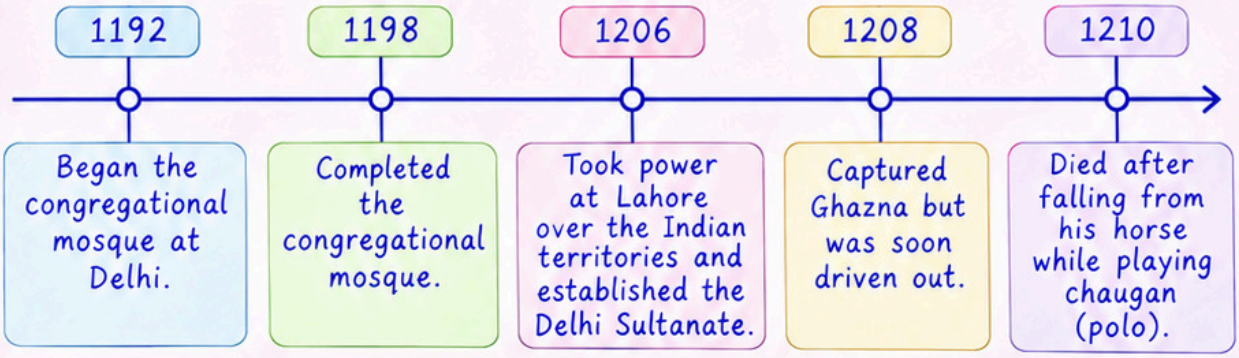
Quwwat-ul-Islam mosque:

Aibak began the congregational mosque at Delhi in 1192 and completed it in 1198. Iltutmish and later Alauddin Khalji enlarged it.

Death:

He died in 1210 after falling from his horse while playing chaugan (polo).

Timeline: key events in Aibak's career



Lahore and Delhi: functional comparison

Lahore	Aibak ruled from Lahore after moving from the Delhi region.
Delhi	Delhi had been his headquarters during the subjugation of the Ganga–Yamuna region.

Quwwat-ul-Islam mosque: at a glance

Name	: Quwwat-ul-Islam mosque
Place	: Delhi
Begun	: 1192
Completed	: 1198
Later	: Iltutmish and later Alauddin Khalji enlarged it.

Aram Shah:

A few amirs raised him to the throne at Lahore. → The Turkish amirs opposed him. → Iltutmish defeated him.

Iltutmish: consolidating authority

2.4 Iltutmish (1211 to 1236)

Rise: A former mamluk, Iltutmish became governor of Badayun and married Aibak's daughter. Invited by the Turkish chiefs of Delhi, he defeated Aram Shah and became Sultan in 1211. He used the royal name Shamsuddin and died in 1236.

Capital: he moved the capital to Delhi and made it his permanent capital.

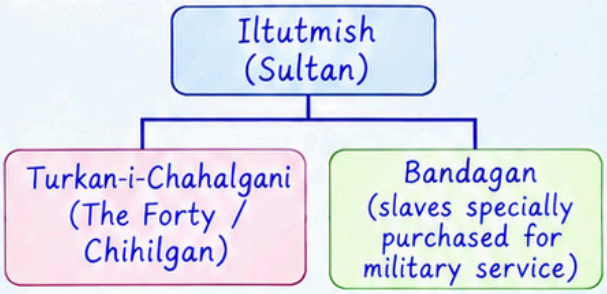
Rivals: In 1215-16, Iltutmish defeated Yaldauz at Tarain and ended his rival claim to supremacy. He drove Qabacha out of Punjab in 1217.

The Forty: Iltutmish organised trusted nobles into the Turkan-i-Chahalgani, also called the Forty or Chihilgan. They were his personal slaves and advisers. Early Delhi Sultans, especially Iltutmish, favoured slaves specially purchased for military service, called bandagan.

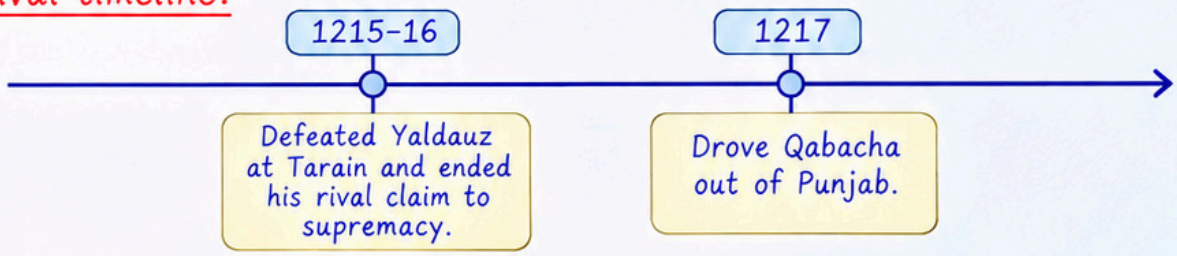
Accession flow:

Aibak → AramShah → Iltutmish

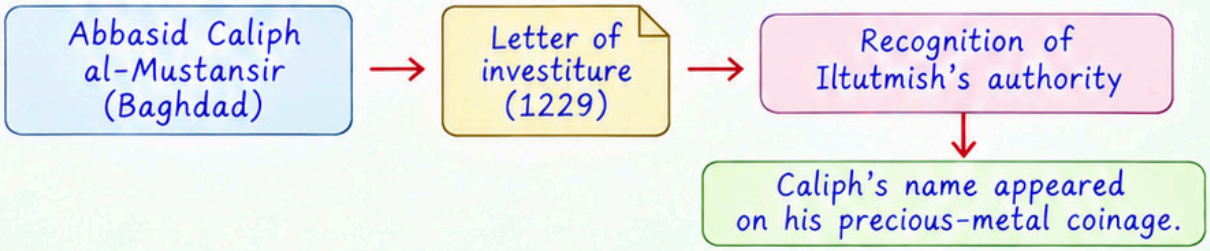
Administrative network:



Rival timeline:



Investiture: In 1229 the Abbasid Caliph al-Mustansir of Baghdad recognised Iltutmish's authority through a letter of investiture. The caliph's name appeared on his precious-metal coinage.



Coins, iqta and the Qutb Minar

Coins:

Iltutmish introduced the silver tanka and the copper jital as the basic coins of the Sultanate.



tanka



jital

Iqta:

Iltutmish assigned revenue from territories, including areas in the Doab, in place of cash salaries. An iqta was a revenue assignment, not private ownership of the land. Its holder was an iqtadar or muqti.

Territories (including areas in the Doab) → Revenue assignment (iqta) → Holder: iqtadar or muqti

Revenue assignment (iqta) → Assigned in place of cash salaries (not private ownership of the land)

Qutb Minar:

Aibak laid its foundation in 1199 and built the first storey; Iltutmish added three storeys. Firuz Shah Tughluq later replaced the damaged top storey with two, producing the present five-storeyed tower.

Aibak: first storey (1)

Iltutmish: three storeys (3)

Firuz Shah Tughluq: replaced the damaged top storey (1)

Firuz Shah Tughluq: added two storeys (2)

Present tower: 5 storeys (5)



1 + 3 − 1 + 2 = 5

The adjacent Quwwat-ul-Islam mosque began in 1192. → The Qutb complex became a UNESCO World Heritage Site in 1993. → The minar is 72.5 m high.

Raziya: authority and resistance

2.5 Raziya (1236 to 1240)

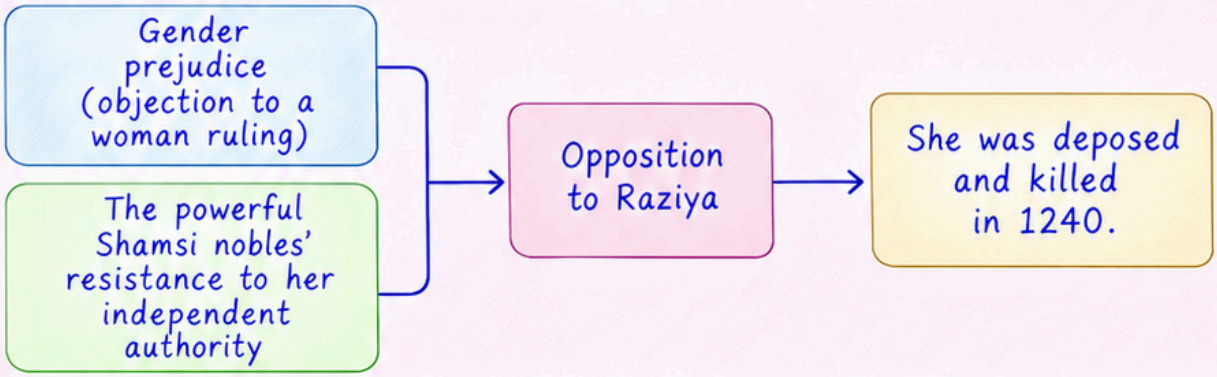
Accession and ability: Iltutmish nominated his daughter Raziya as successor. After Ruknuddin Firoz's brief reign, she became Sultan in 1236 with support in Delhi.

Gender and power: Chronicler Minhaj-i Siraj acknowledged her ability but objected to a woman ruling. Opposition combined gender prejudice with the powerful Shamsi nobles' resistance to her independent authority.

Yaqut: She sought support beyond the Turkish aristocracy and appointed the Abyssinian Jamaluddin Yaqut as amir-i-akhur (master of the horses). This intensified tensions with the Turkish nobles.

Fall: She was deposed and killed in 1240.

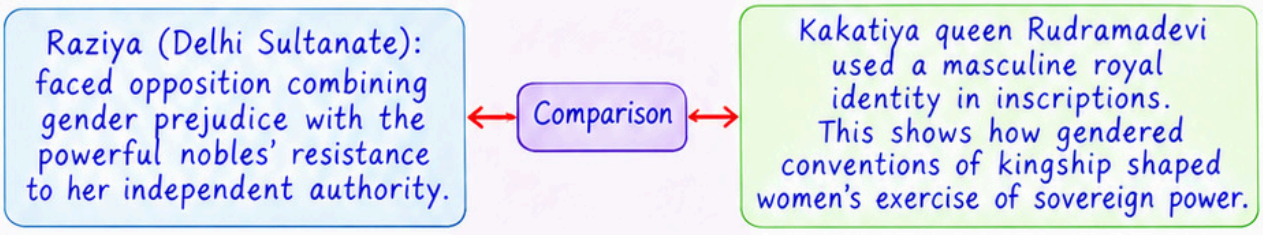
Cause and effect: gender prejudice and nobles' resistance



Yaqut appointment: impact



Andhra comparison: Rudramadevi



Balban: strengthening the crown

2.6 Balban: deputy under Nasiruddin; Sultan, 1266–1287

As naib: A member of the Forty, Balban became the dominant minister under Nasiruddin Mahmud and married his daughter to the Sultan. His influence was interrupted briefly in 1253–55; it was not an unbroken deputyship throughout 1246–1266.

Kingship: Balban emphasised the exalted position of the Sultan as the 'shadow of God'. His kingship combined autocratic authority with strict court discipline.

Court ceremony: He enforced sijda (prostration) and paibos (kissing the monarch's feet) to raise the prestige of the Sultan. He also observed the Persian festival of Nowruz.

The end of the Forty: He weakened the Chahalgani and strengthened the crown. The death or loss of influence of several members also aided his consolidation.

From deputy (naib) to Sultan: timeline

Dominant minister under Nasiruddin → Interruption 1253–55 (influence interrupted) → Returned to influence before accession → Sultan 1266–1287

Control: reorganisation and enforcement

He reorganised the military department (diwan-i-arz), placed spies in every department and put down revolts in Mewat, the Doab, Awadh and Katihar.

Control under Balban

- Authority (autocratic kingship)
- Court (strict discipline)
- Military (diwan-i-arz)
- Spies (in every department)

Bengal: from Tughril to Bughra Khan

Governor Tughril rebelled and assumed the title of Sultan.

↓

Balban had him killed.

↓

Bughra Khan appointed governor (his son).

Mongols and the dynastic transition

2.7 The Mongol threat

When	What happened
1219	The Mongols under Genghis Khan invaded Transoxiana
1221	Genghis Khan defeated Jalaluddin Mangbarni at the Indus. Iltutmish refused him shelter and so kept the Sultanate out of direct conflict with the Mongols
Bahram Shah's reign (1240 to 1242)	The Mongols invaded the Punjab and sacked Lahore
Balban's years	Delhi maintained a defensive strategy; it fought off several invasions, though the Mongols were entrenched in the Punjab
1285	Prince Muhammad, Balban's son, was killed fighting the Mongols

2.8 The end of the dynasty, 1290

- Balban died in 1287. The nobles raised his grandson Kaiqubad, who was replaced by Kaimurs. In 1290 Firoz murdered Kaimurs and took the throne as Jalaluddin Khalji; This was a dynastic revolution.
- Jalaluddin Firuz Khalji (1290 to 1296) took the throne at about 70; this transition is known as the Khalji revolution.

Succession, 1287 to 1290

1287 Balban died → Kaiqubad raised by the nobles) → Kaimurs (replaced Kaiqubad) → 1290 Jalaluddin Khalji (took the throne)

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Chronology: 1206–1290

Year	Event
1206	Muhammad of Ghur dies; Aibak takes power at Lahore
1208	Aibak takes Ghazna but is soon driven out
1210	Aibak dies in a polo accident; Aram Shah succeeds briefly
1211	Iltutmish becomes Sultan
1215–1216	Iltutmish defeats Yaldauz at Tarain
1217	Iltutmish drives Qabacha out of the Punjab
1219	Mongols under Genghis Khan invade Transoxiana
1221	Battle of the Indus; Iltutmish refuses shelter to Mangbarni
1229	Iltutmish receives the Abbasid Caliph's letter of investiture
1236	Iltutmish dies; Raziya becomes Sultan
1240	Raziya removed from the throne and killed
1240 to 1246	Bahram Shah and Masud Shah; Mongols sack Lahore
1246	Nasiruddin Mahmud becomes Sultan; Balban rises in influence
1266	Balban becomes Sultan
Balban's reign	Tughril's revolt in Bengal is suppressed
1285	Prince Muhammad killed fighting the Mongols
1287	Balban dies; Kaiqubad raised to the throne
1290	Jalaluddin Firuz Khalji takes the throne: the Khalji dynasty begins

How to read the table:

→ Balban dominated much of Nasiruddin's reign before becoming Sultan in 1266; his earlier influence was briefly interrupted in 1253–55.

→ The years between strong rulers (1210 to 1211, 1236 to 1246, 1287 to 1290) were years of short reigns and power struggles among the nobles.

→ The Mongol danger runs through the whole period, from 1221 to the death of Prince Muhammad in 1285.

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Three distinctions to remember

Three common exam traps

1. Succession after Aibak:

Iltutmish became Sultan in 1211. He was Aibak's son-in-law, not his son. Aram Shah ruled briefly between them.

Aibak – Iltutmish relationship

Aibak — son-in-law (not son) — Iltutmish

Aibak → Aram Shah (brief) → Iltutmish (1211)

2. The Forty belong to two reigns, in opposite ways.

The Forty were formed from Iltutmish's own slaves and served him. Balban had been a junior member of the Forty, and it was he who broke their power.

Forty formed vs weakened

Iltutmish	Balban
The Forty (formed from his own slaves)	A junior member of the Forty
served him	broke their power

3. Qutb Minar was not one ruler's work.

Aibak laid its foundation in 1199 and built the first storey; Iltutmish added three. Firuz Shah Tughluq rebuilt the damaged top into two storeys, giving the present total of five.

Abstract storey blocks

Aibak (1199) 1 storey + Iltutmish 3 storeys − Firuz Shah Tughluq 1 (damaged) + Firuz Shah Tughluq 2 storeys

1 + 3 − 1 + 2 = 5

Question 1

Q1. Match List I (Ruler) with List II (Act or event linked to the ruler) and select the correct answer using the code given below the lists:

List I (Ruler)	List II (Act or event)
A. Qutbuddin Aibak	1. Insisted on sijda (prostration) and paibos (kissing the monarch's feet) at court
B. Iltutmish	2. Began building the Quwwat-ul-Islam mosque at Delhi
C. Raziya	3. Appointed an Abyssinian, Jamaluddin Yaqut, as master of the horses (amir-i-akhur)
D. Balban	4. Received a letter of investiture from the Abbasid Caliph of Baghdad in 1229

(1) A-2, B-4, C-1, D-3

(2) A-4, B-2, C-3, D-1

(3) A-2, B-4, C-3, D-1

(4) A-4, B-2, C-1, D-3

Question 1: explained

Answer: (3) A-2, B-4, C-3, D-1

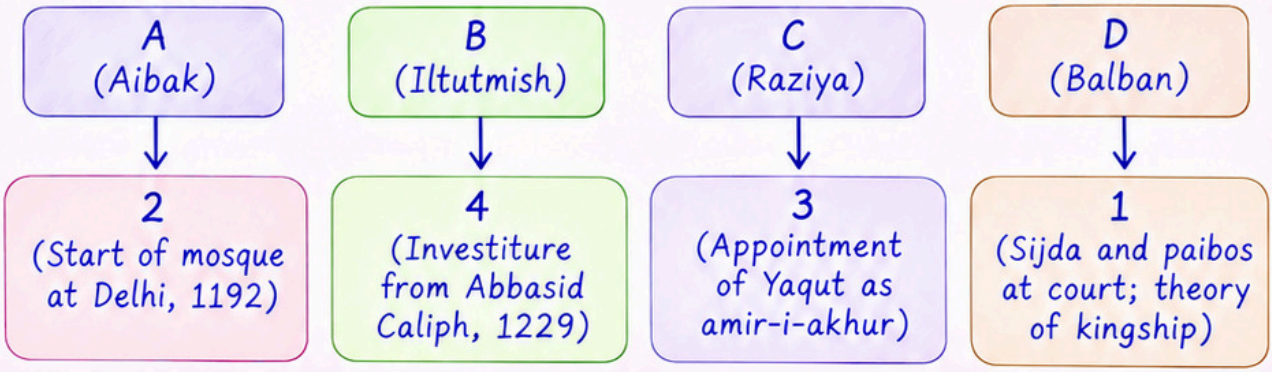
A-2: Aibak began the Quwwat-ul-Islam mosque at Delhi in 1192, in the last decade of the twelfth century. Iltutmish enlarged it later.

B-4: Iltutmish obtained a letter of investiture from the Abbasid Caliph of Baghdad in 1229. Aibak had died nineteen years earlier.

C-3: Raziya appointed the Abyssinian Malik Jamaluddin Yaqut as amir-i-akhur (master of the horses), which angered the Turkish nobles; her appointment of an African to an important position insulted the Council of Forty.

D-1: Balban, who formulated a theory of kingship, insisted on sijda and paibos at court; he used ceremony to raise the prestige of the sultanate. Raziya's trouble was the opposite: the nobles would not accept her rule.

Matching diagram:



Why (1) is wrong: it gets Aibak and Iltutmish right but exchanges Raziya and Balban, giving Balban's court ceremony to Raziya and her appointment of Yaqut to Balban.

Why (2) is wrong: it gets Raziya and Balban right but exchanges Aibak and Iltutmish, giving the investiture of 1229 to Aibak, who had died in 1210, and the start of the mosque to Iltutmish, who only enlarged it.

Why (4) is wrong: it makes both exchanges.

Question 2

Q2. Consider the following statements about the Delhi Sultanate between 1206 and 1290:

1. Iltutmish introduced the copper tanka and the silver jital as the basic coins of the Sultanate.
2. The dynasty ended in 1290 when Alauddin Khalji seized the throne.
3. Before he became Sultan in 1266, Balban was the naib (deputy) of Sultan Bahram Shah.
4. Iltutmish refused shelter to Jalaluddin Mangbarni, the prince whom Genghis Khan had defeated at the Indus.

Which of the statements given above is/are correct?

(1) 4 only

(2) 1 and 2 only

(3) 2 and 3 only

(4) 1, 3 and 4 only

Question 2: explained

Answer: (1) 4 only

Statement 1 is wrong: the metals are reversed. Iltutmish introduced the silver tanka and the copper jital.

Statement 2 is wrong: the Khalji who took the throne in 1290 was Jalaluddin Firuz Khalji. Alauddin Khalji came to the throne in 1296.

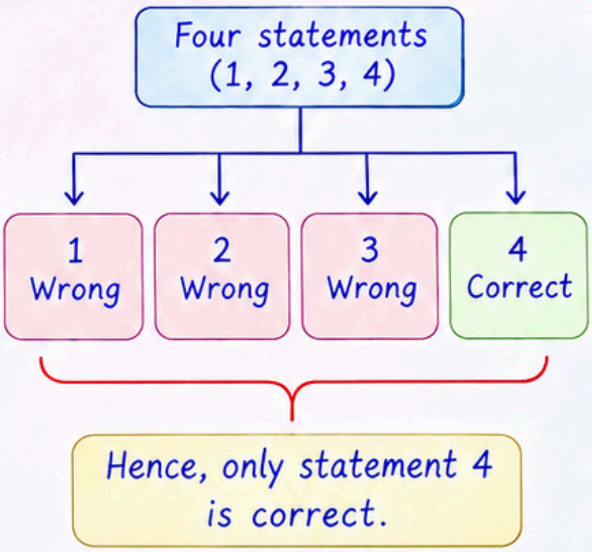
Statement 3 is wrong: Balban served as naib under Nasiruddin Mahmud, not Bahram Shah. Bahram Shah reigned from 1240 to 1242, before Balban's rise to that post.

Statement 4 is correct: Iltutmish refused shelter to Jalaluddin Mangbarni and so kept the Sultanate out of direct conflict with the Mongols; Genghis Khan had defeated Mangbarni at the Indus in 1221; he had eluded Genghis Khan on the Indus and escaped to India.

Statement comparison

Statement	Verdict	Key point
1	Wrong	Metals are reversed; Iltutmish introduced the silver tanka and the copper jital.
2	Wrong	Khalji in 1290: Jalaluddin Firuz Khalji. Alauddin Khalji came in 1296.
3	Wrong	Balban served under Nasiruddin Mahmud, not Bahram Shah. Bahram Shah reigned from 1240 to 1242.
4	Correct	Iltutmish refused shelter to Jalaluddin Mangbarni; kept the Sultanate out of direct conflict with the Mongols; Genghis Khan defeated Mangbarni at the Indus in 1221; he had eluded Genghis Khan on the Indus and escaped to India.

Which option is correct?



Why the other options are wrong?

- (2) holds statements 1 and 2, both wrong.
- (3) holds statements 2 and 3, both wrong.
- (4) has statement 4 but adds statements 1 and 3, both wrong.

Election Commission: constitutional foundation

Article 324(1) places the superintendence, direction and control of electoral rolls and elections in the Election Commission of India.

Four electoral spheres:

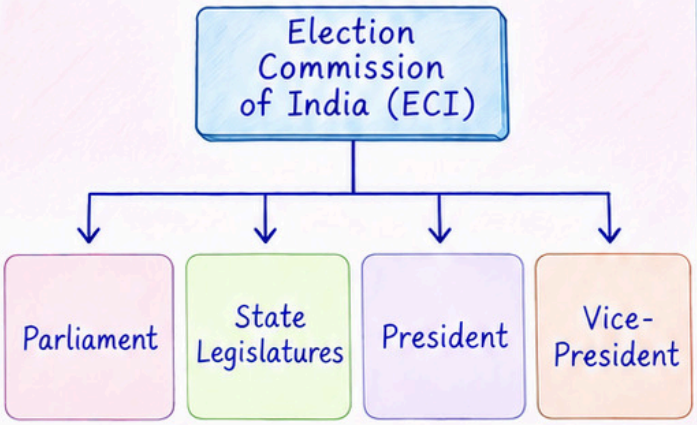
- Parliament;
- State Legislatures;
- President;
- Vice-President.

Article 324(2): The Commission consists of the Chief Election Commissioner and such number of other Election Commissioners as the President fixes. The Constitution does not itself prescribe a permanently fixed total of three.

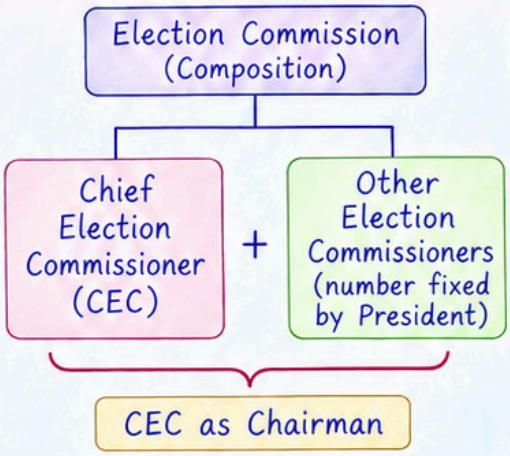
The President appoints the members, subject to any law Parliament makes on appointment.

Article 324(3): When other Election Commissioners are appointed, the Chief Election Commissioner acts as Chairman.

ECI and the four electoral spheres



Composition of the Commission



Institutional logic:

constitutional authority → independent election administration → democratic representation

Remember: Parliament and State Legislature elections include their respective Houses; do not reduce ECI jurisdiction to Lok Sabha and Assembly elections alone.

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Article 324: assistance and safeguards

Clause (4): The President may appoint Regional Commissioners after consulting the Election Commission. They assist the Commission.

When?

- Before each Lok Sabha general election;
- before each State Legislative Assembly general election;
- before the first election and each biennial election to a State Legislative Council where one exists.

Clause (5): Conditions of service and tenure are determined by presidential rules, subject to parliamentary law.

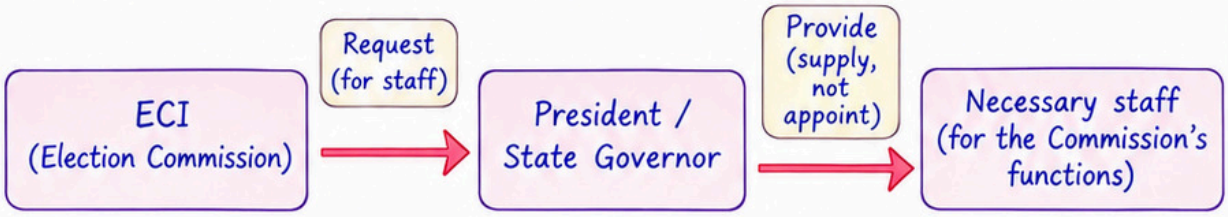
CEC: removal only in the same manner and on the same grounds as a Supreme Court Judge. Service conditions cannot be varied to the CEC's disadvantage after appointment.

Other Election Commissioners and Regional Commissioners: removal requires the CEC's recommendation. These safeguards are not worded identically to the CEC's protection.

Removal: comparison of safeguards

CEC	Other ECs / Regional Commissioners
CEC: Removal only in the same manner and on the same grounds as a Supreme Court Judge. Service conditions cannot be varied to the CEC's disadvantage after appointment.	Other ECs / Regional Commissioners: Removal requires the CEC's recommendation. These safeguards are not worded identically to the CEC's protection.

Clause (6): On the Commission's request, the President or a State Governor must provide the staff necessary for its functions.



Do not confuse: Regional Commissioners assist the ECI; they do not replace it.

Articles 325-329: the electoral framework

325 – One general electoral roll for each territorial constituency. No exclusion or separate electoral roll on grounds only of religion, race, caste or sex.

326 – Lok Sabha and State Assembly elections rest on adult suffrage. Eligibility: Indian citizen, at least 18 on the legally fixed date, subject to legal disqualifications such as non-residence, unsoundness of mind, crime or corrupt/illegal practice.

327 – Parliament may legislate on election matters, including rolls and delimitation.

328 – A State Legislature may legislate for its own House or Houses, so far as Parliament has not made provision.

The electoral framework: a five-step sequence

1 Common roll	2 Adult suffrage	3 Parliament's law	4 State's residual provision	5 Election-dispute route
ELECTORAL ROLL (Constituency) →	POLLING STATION →	{ ——— →	{ ——— →	ELECTION PETITION
One general electoral roll for each territorial constituency (Art. 325).	Lok Sabha and State Assembly elections on adult suffrage; Indian citizen, 18 or above, subject to legal disqualifications (Art. 326).	Parliament may legislate on election matters, including rolls and delimitation (Art. 327).	A State Legislature may legislate for its own House or Houses, so far as Parliament has not made provision (Art. 328).	Elections may be challenged only through an election petition in the prescribed manner (Art. 329(b)).

Article 329: challenges and limits

329(a) – Courts cannot question the validity of delimitation or seat-allotment laws made under Articles 327 or 328.

{ ———

329(b) – Parliamentary and State Legislature elections may be challenged only through an election petition in the prescribed manner.

ELECTION PETITION

Contrast:

- Article 325 protects a common roll.
- Article 326 specifies adult suffrage for Lok Sabha and Assemblies.
- Article 326 is not a statement that every constitutional election is directly decided by all adult citizens.

Appointment: the constitutional and statutory stages

Before 2 March 2023:
The President appointed on the Government's recommendation. Article 324(2) made appointment subject to a law Parliament could enact; it did not prescribe a selection committee.

2 March 2023 – Anoop Baranwal v. Union of India:
A five-judge Constitution Bench directed a committee of the Prime Minister, the Lok Sabha Leader of Opposition (or leader of the largest opposition party if no recognised Leader of Opposition), and the Chief Justice of India.

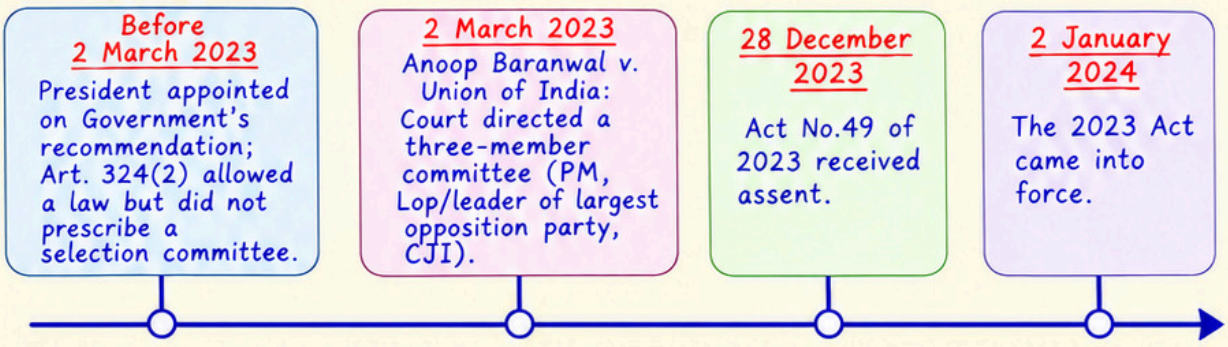
This was an interim arrangement: it would operate until Parliament made a law.

28 December 2023 – Act No.49 of 2023 received assent.
2 January 2024 – The 2023 Act came into force.

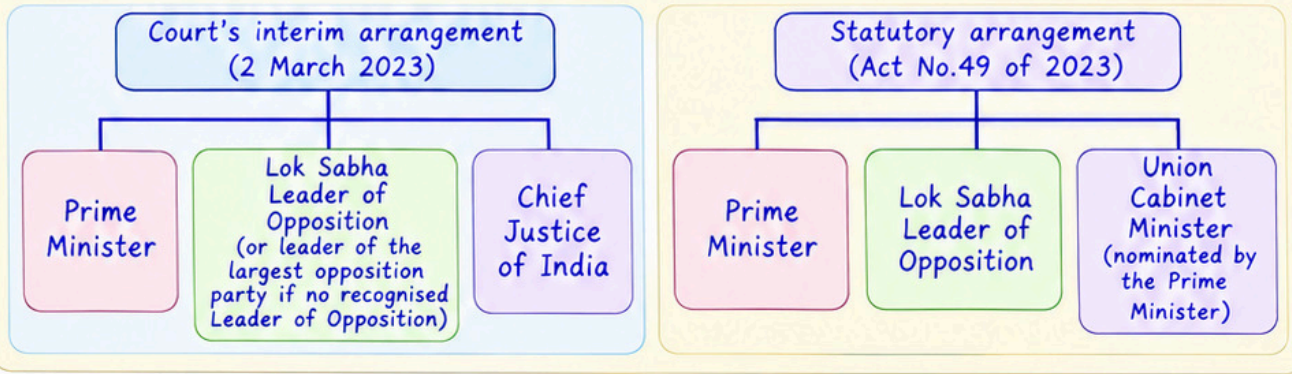
The statutory Selection Committee has the Prime Minister, the Lok Sabha Leader of Opposition, and a Union Cabinet Minister nominated by the Prime Minister. It does not include the Chief Justice of India.

Core distinction: The Court's interim arrangement and Parliament's later statutory arrangement are not simultaneous alternative methods.

Chronological timeline:



Three-member committee: comparison



The 2023 Act: search, selection, appointment

Stage 1 — Search Committee (section 6)

- Chair: Minister of Law and Justice.
- Two other members must be at least Secretary rank.
- The committee prepares a panel of five persons.

Stage 3 — Appointment (section 4)

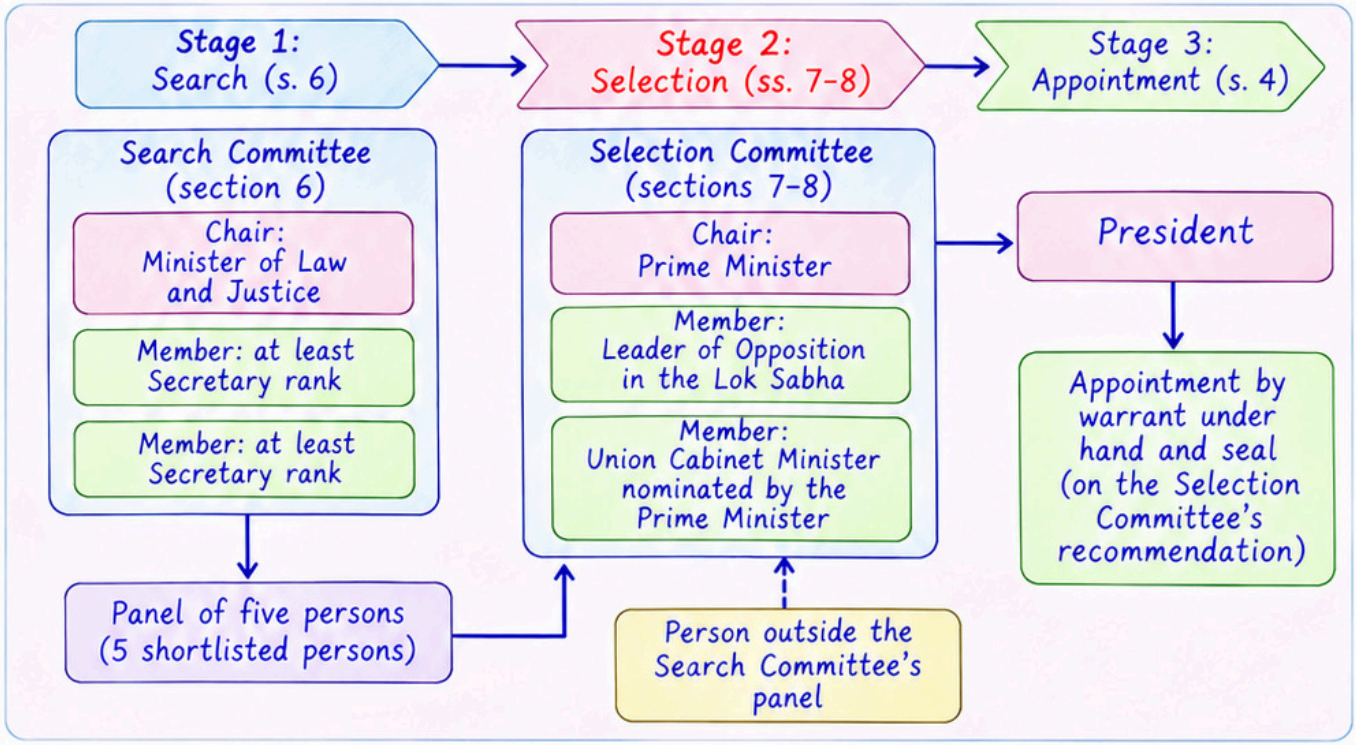
- The President appoints by warrant under hand and seal, on the Selection Committee's recommendation.

Eligibility (section 5):

- Holding or having held a post equivalent to Secretary to the Government of India;
- integrity;
- knowledge of and experience in managing and conducting elections.

Stage 2 — Selection Committee (sections 7-8)

- Chair: Prime Minister.
- Members: Leader of Opposition in the Lok Sabha and a Union Cabinet Minister nominated by the Prime Minister.
- If no Leader of Opposition is recognised, the leader of the single largest opposition party is deemed to hold that position for this purpose.
- The Selection Committee regulates its procedure transparently and may consider a person outside the Search Committee's panel.



Do not confuse:

- five shortlisted persons are not five Selection Committee members.
- Search and selection have different chairpersons.

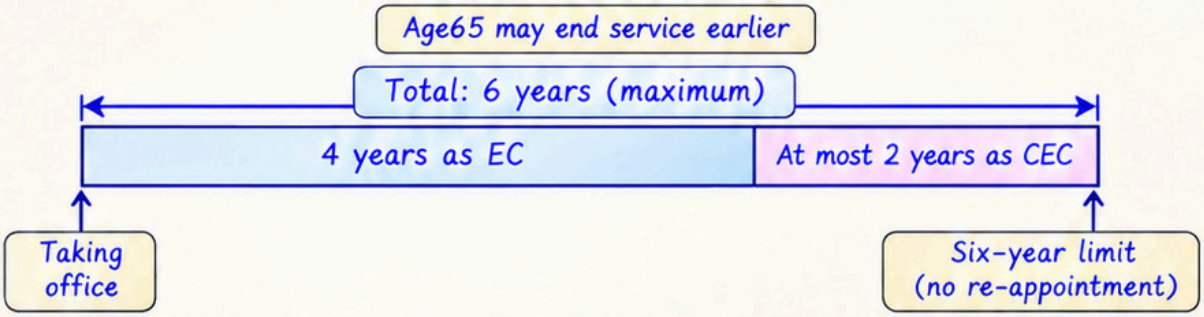
Tenure, pay and removal

Section 9: Six years from taking office OR age 65, whichever comes first. No re-appointment.

An Election Commissioner promoted to Chief Election Commissioner can serve no more than six years in the two offices together. Promotion does not restart a fresh six-year clock.

Example: Four years as EC leaves at most two years as CEC, and even that period ends earlier if age 65 is reached.

Six-year total tenure (with promotion)



Section 10: Salary equals that of a Supreme Court Judge. Salary, allowances and service conditions of members already in office immediately before commencement cannot be changed to their disadvantage.

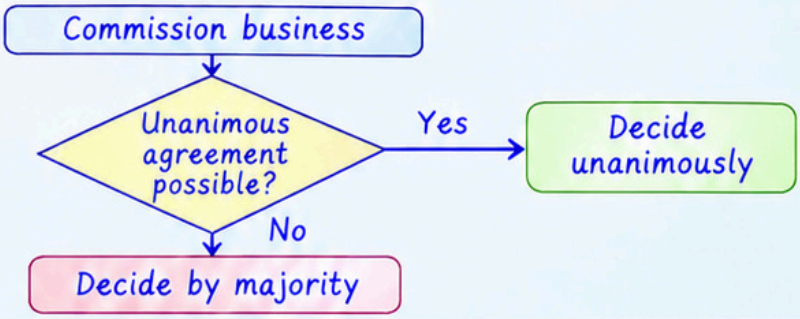
Section 11: A member may resign by writing to the President.

Removal:

- CEC removal: → Same manner and grounds as a Supreme Court Judge.
- Other ECs: → Removal only on the CEC's recommendation.

Section 18:

Commission business should be unanimous as far as possible. If members differ, the majority decides.



Contrast: CEC chairs the Commission, but disagreement is resolved by majority, not by a unilateral CEC veto.

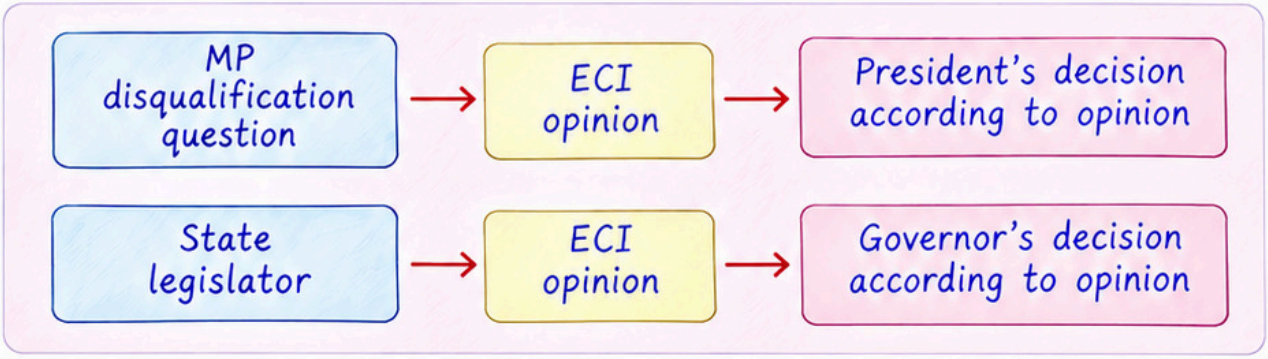
ECI powers: administration and binding opinion

Article 324(1): Superintendence, direction and control of electoral rolls and the elections within the Commission's constitutional jurisdiction.

Article 103: Questions about an MP's disqualification under Article 102(1) are referred to the President. Before deciding, the President obtains the ECI's opinion and acts according to it.

Article 192: For the corresponding State-legislator disqualification question, the Governor decides according to the ECI's opinion.

The ECI supplies the binding opinion; the formal decision is the President's or Governor's.



Party recognition and symbols: The Election Symbols (Reservation and Allotment) Order, 1968 provides the framework.



Model Code of Conduct:
Evolved through electoral practice; its origin is associated with the Kerala Assembly election of 1960.

Electronic voting:
EVMs were first used in 50 polling stations of Kerala's Parur Assembly constituency in May 1982.

Independence: protections and gaps

Constitutional safeguards

CEC removal follows the manner and grounds applicable to a Supreme Court Judge. The CEC's service conditions cannot be varied to disadvantage after appointment. Other ECs can be removed only on the CEC's recommendation.

Statutory safeguards

Fixed maximum term, age ceiling, no re-appointment and salary equivalent to a Supreme Court Judge.

Section 16 protects present and former members against civil or criminal proceedings for acts, things or words committed, done or spoken while acting or purporting to act in discharge of official duty or function. It is not a statement that every private act receives immunity.

Questions in debate

1. Selection: two members of the three-person statutory committee come from the executive.
2. Unequal removal protection: CEC and other ECs do not have identical safeguards.
3. Qualifications: Article 324 sets none; section 5 of the 2023 Act prescribes eligibility.
4. Later office: Article 324 contains no express bar on later government employment, unlike Articles 148(4) for CAG and 319 for UPSC Chairman.

Protection-versus-debate comparison

Protection (safeguard)	Debate (concern)
Removal of CEC: as Supreme Court Judge (manner and grounds)	Two committee members for selection come from the executive.
Service conditions of CEC cannot be varied to disadvantage	CEC and other ECs do not have identical safeguards on removal.
Other ECs removable only on CEC's recommendation	Article 324 sets no qualifications; section 5 of the 2023 Act prescribes eligibility.
Fixed term, age ceiling, no re-appointment and salary equivalent to a Supreme Court Judge	No express bar on later government employment under Article 324, unlike Articles 148(4) for CAG and 319 for UPSC Chairman.

Official-duty protection and private-act immunity

Section 16 protection (distinction)

- Protection for acts, things or words while acting or purporting to act in discharge of official duty or function (official-duty protection)
- Not a statement that every private act receives immunity (no blanket private-act immunity)

Judicial suggestion: In Anoop Baranwal, Justice Ajay Rastogi favoured extending comparable removal safeguards to other ECs, subject to the CEC's recommendation.

The appointment dispute: distinguish arguments from findings

The challenge concerns the validity of provisions of the 2023 Act, particularly its selection process.

Concern raised: Replacing the Chief Justice of India with a Cabinet Minister nominated by the Prime Minister may strengthen executive influence over an institution meant to supervise elections independently.

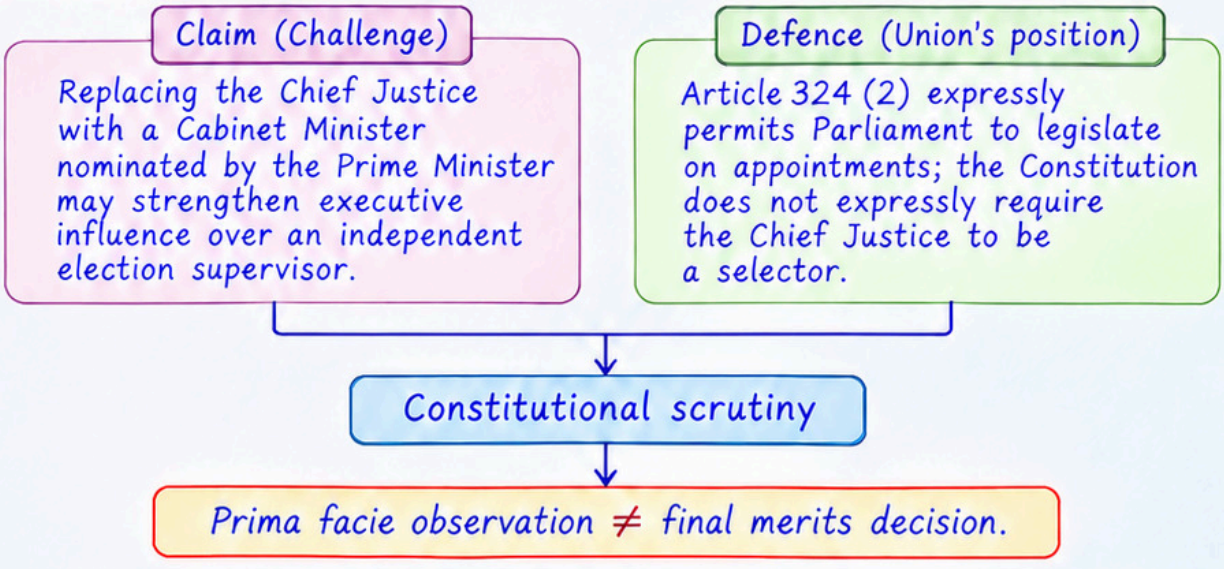
Defence raised: Article 324 (2) expressly permits Parliament to legislate on appointments; the Constitution does not expressly require the Chief Justice to be a selector.

23 September 2026: Justice Dipankar Datta found prima facie merit in the Union's argument that Parliament was not bound to include the Chief Justice. He also observed prima facie substance in the challenge concerning the Prime Minister's nominee.

Justice Satish Chandra Sharma treated the omission of a neutral selector as an important constitutional question requiring consideration.

These observations must not be presented as a final ruling that the Act is either valid or invalid.

Claim / Defence diagram:



Analytical balance: legislative authority under Article 324(2) must be examined alongside institutional independence and the constitutional requirement of free and fair elections.

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23 September 2026: what the Court actually ordered

Case: Dr Jaya Thakur and connected petitions challenging provisions of the 2023 Act.

Bench: Justices Dipankar Datta and Satish Chandra Sharma.

The judges differed on whether the issues should be considered by a Constitution Bench. Datta did not favour the requested reference; Sharma favoured a Bench of at least five judges.

Joint order: Papers were directed to the Chief Justice of India for considering the desirability of constituting a Constitution Bench to decide the validity of section 7 and other provisions.

The joint order also requested consideration of a permanent five-judge Bench for pure constitutional issues, given delays in resolving references.

Read the procedural stages separately:

Difference of judicial opinion → papers placed before Chief Justice → consideration of Constitution Bench

future adjudication

Referral is not a final decision on the Act's constitutional validity. A request to consider a Bench is not proof that the Bench has already been constituted.

Historical context: In March 2024 the Supreme Court had declined interim stay of the appointment law; that is a dated procedural event, not a substitute for checking later orders.

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ECI: milestones and changing composition

Composition timeline: key milestones and Commission strength

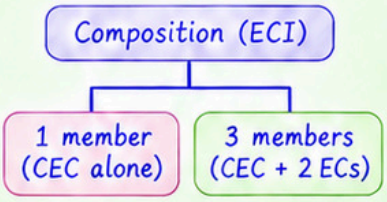
25 January 1950:	The Commission was constituted as a one-member body.	Composition: 1 member
21 March 1950:	Sukumar Sen became the first Chief Election Commissioner.	Composition: 1 member
16 October 1989:	S.S. Dhanoa and V.S. Seigell were appointed Election Commissioners, creating a three-member Commission.	Composition: 3 members
1 January 1990:	Presidential notifications rescinded the additional posts and appointments; the Commission returned to one member.	Composition: 1 member
12 December 1990–11 December 1996:	T.N. Seshan's tenure as CEC; associated with assertion of the Commission's autonomy and authority.	Composition: 1 member until 1993; 3 from 1 Oct 1993
1 October 1993:	Two additional Commissioners were appointed; the three-member arrangement resumed.	Composition: 3 members
25 January 2011:	First National Voters' Day, marking the Commission's foundation day.	Composition: 3 members
19 February 2025:	Gyanesh Kumar took charge as CEC; Dr Vivek Joshi took charge as EC. Dr Sukhbir Singh Sandhu had taken charge as EC on 15 March 2024.	Composition: 3 members

MCC milestone:

26 September 1968: A Minimum Code of Conduct was first issued under the CEC's signature.

Constitutional lesson:

Article 324(2) permits the President to fix the number of other ECs. One-member and three-member arrangements arose within the same constitutional framework.



Three distinctions to remember

1. Interim committee versus statutory committee

- The Supreme Court's 2023 committee included the CJI and operated until Parliament made a law.
- The 2023 Act provides a different committee.
- The September 2026 referral did not decide the Act's final validity.

2. ECI versus State Election Commission

Institution	Jurisdiction
ECI	Parliament, State Legislatures, President and Vice-President.
State Election Commission	Panchayat and municipal elections under Articles 243K and 243ZA.

3. Conducting elections versus deciding disputes

- ECI administers elections.
- Parliamentary and State Legislature election challenges proceed through election petitions under law, as required by Article 329(b).
- Disputes concerning election of President or Vice-President are decided by the Supreme Court under Article 71.

Election-dispute route

Election challenge (Parliamentary or State Legislature)
↓
Election petition under law (Article 329(b))
↓
Decision by the competent court under law

Disqualification route

Disqualification (in specified cases)
↓
Articles 103 and 192
↓
President or Governor to act according to the ECI's opinion

- One institution can administer an election without being the judicial forum for challenging its result.

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MCQ 1

Q1. Consider the following statements about the Election Commission of India under the Constitution:

1. Before each general election to the House of the People and to the Legislative Assembly of each State, and before the first general election and thereafter before each biennial election to the Legislative Council of each State having such Council, the President may, after consultation with the Election Commission, appoint Regional Commissioners to assist the Commission.
2. Before deciding whether a Member of Parliament has become subject to a disqualification under Article 102(1), the President must obtain the opinion of the Election Commission and act according to it.
3. An Election Commissioner other than the Chief Election Commissioner can be removed from office only in like manner and on the like grounds as a Judge of the Supreme Court.
4. When the Election Commission so requests, the Governor of a State must make available to it such staff as may be necessary.

Which of the statements given above is/are correct?

(1) 1, 3 and 4 only

(2) 1, 2 and 4 only

(3) 2 and 3 only

(4) 1 and 2 only

Q1. Answer: (2) 1, 2 and 4 only

Explanation of each statement:

Statement 1 – Correct	Article 324(4) lets the President, after consultation with the Election Commission, appoint Regional Commissioners to assist it before each general election to the House of the People and to each State Legislative Assembly, and before the first general election and thereafter before each biennial election to the Legislative Council of a State that has one.
Statement 2 – Correct	Under Article 103 the question goes to the President, whose decision is final, but before deciding he "shall obtain the opinion of the Election Commission" and "shall act according to such opinion".
Statement 3 – Wrong	Only the Chief Election Commissioner has the protection of removal in like manner and on the like grounds as a Supreme Court Judge. Under Article 324(5) any other Election Commissioner shall not be removed except on the recommendation of the Chief Election Commissioner, and section 11 of the 2023 Act repeats this.
Statement 4 – Correct	Under Article 324(6), when the Commission so requests, the President or the Governor of a State shall make available to it such staff as may be necessary.

Why the other options are wrong:

Other options (incorrect)	(1)	Includes statement 3, which is wrong, and leaves out statement 2.
	(3)	Includes statement 3 and leaves out statements 1 and 4.
	(4)	Leaves out statement 4, which is correct.

MCQ 2

Q2. Consider the following statements about the Election Commission of India:

1. Under the 2023 Act, the Commission transacts its business unanimously as far as possible, and where the members differ, the opinion of the Chief Election Commissioner prevails.

2. The two Election Commissioners appointed on 16 October 1989 remained in office until 1 October 1993.

3. Under the 2023 Act, a person to be appointed Chief Election Commissioner or Election Commissioner must be holding, or have held, a post equivalent to the rank of Secretary to the Government of India.

4. Under the 2023 Act, an Election Commissioner who is appointed Chief Election Commissioner cannot serve more than six years in the two offices together.

Which of the statements given above is/are correct?

(1) 1 and 2 only

(2) 1 and 3 only

(3) 2 and 4 only

(4) 3 and 4 only

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Q2. Answer: (4) 3 and 4 only

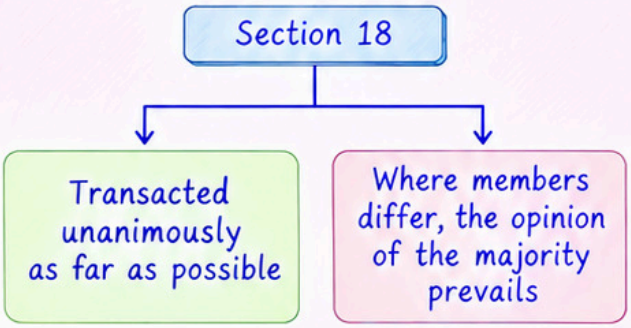
Statement 1 – Wrong: Section 18 of the 2023 Act says business is transacted unanimously as far as possible, but where the members differ, the opinion of the majority prevails. The Chief Election Commissioner chairs the Commission (Article 324(3)) but has no overriding vote.

Statement 2 – Wrong: S.S. Dhanoa and V.S. Seigell, appointed on 16 October 1989, lost office by a Presidential notification dated 1 January 1990, and the Commission became a one-member body again. The appointments of 1 October 1993 were of two new Election Commissioners under the 1991 Act.

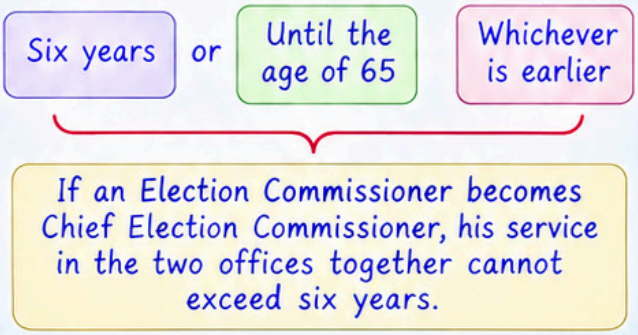
Statement 3 – Correct: Section 5 requires a person who is holding or has held a post equivalent to the rank of Secretary to the Government of India, of integrity and with experience in the management and conduct of elections.

Statement 4 – Correct: Section 9 gives a term of six years or until the age of 65, whichever is earlier, and where an Election Commissioner becomes Chief Election Commissioner, his service in the two offices together cannot exceed six years.

Business of the Commission (2023 Act)



Term of office (Section 9)



Why the other options are wrong:

- Option (1) → Has both wrong statements (1 and 2) and leaves out statements 3 and 4.
- Option (2) → Includes statement 1, which is wrong, and leaves out statement 4.
- Option (3) → Includes statement 2, which is wrong, and leaves out statement 3.

UN specialised agencies: autonomous, but connected

What are UN specialised agencies?

Autonomous international organisations set up by agreement among governments (intergovernmental agreements) to work in specific fields of common interest. They are linked to the United Nations through negotiated relationship agreements.

Key points

- They are not principal organs of the UN.
- They are created by intergovernmental agreements.
- They have a negotiated relationship with the UN.
- Each agency keeps its own members, budget, head and decision-making autonomy.
- They work with the UN, especially through ECOSOC.

Institutional flow: how a specialised agency is linked to the UN

Intergovernmental agreement establishes a specialised agency. → ECOSOC negotiates a relationship agreement (Article 63). → General Assembly gives its approval. → The agency is linked to the UN through the agreed relationship.

Outcome

- The agency remains autonomous.
- It keeps its own members, budget and head.
- It cooperates with the UN in its area of work.

ECOSOC: one of UN's six principal organs

- The Economic and Social Council (ECOSOC) is one of the six principal organs of the United Nations.
- It coordinates work on economic, social and related issues and works closely with the specialised agencies, including by negotiating relationship agreements (Article 63).

Charter articles on specialised agencies (in simple terms)

Article	What it provides
57	The UN can work with specialised agencies in fields such as economic, social, cultural, educational, health and related areas.
63	The UN can make agreements with agencies and coordinate work with them, mainly through ECOSOC.
58	The UN makes recommendations to coordinate agencies' policies and activities.
59	The UN can hold negotiations to set up new specialised agencies when needed.
64	ECOSOC may arrange to obtain regular reports from agencies.
70	Agency representatives can take part in ECOSOC's discussions, but they do not have a vote.

Four important UN specialised agencies and their mandates

WHO
World Health Organization

Mandate: Works for better health for all, including disease prevention and health services.



UNESCO
United Nations Educational, Scientific and Cultural Organization

Mandate: Promotes education, advances science and protects culture, such as heritage, knowledge and creative work.



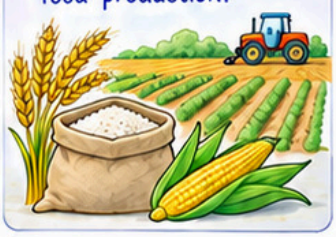
ILO
International Labour Organization

Mandate: Promotes decent work and social justice, including better working conditions, fair labour standards and social protection.



FAO
Food and Agriculture Organization

Mandate: Works for food security and better agriculture, including higher and more sustainable food production.



Funding: Specialised agencies are financed through assessed contributions and voluntary contributions.

Specialised agencies: the family and the exceptions

Specialised agencies are autonomous organisations linked to the United Nations by agreements, set up to cooperate in specific fields such as agriculture, transport, health, communication and development finance.

Key features of UN specialised agencies:

- Autonomous: they have their own members, governing bodies, budget and rules.
- Link to the UN: related to the UN through an agreement that defines cooperation.
- Functional scope: work in a particular field (e.g., food, aviation, health, weather, development finance).
- Not UN departments: they are separate organisations, not parts of the UN Secretariat.

The UN specialised agencies: complete list (15)

No.	Agency (Acronym)	Main area of work
1.	FAO	Food and agriculture (food security, agriculture, fisheries, forestry).
2.	ICAO	Civil aviation (international civil aviation and air transport standards).
3.	IFAD	Agricultural development (rural development and agricultural investment, especially in developing countries).
4.	ILO	Labour (employment, labour standards and decent work).
5.	IMF	Monetary cooperation (international monetary stability and cooperation).
6.	IMO	Maritime affairs (safety, security and environmental protection in shipping).
7.	ITU	Telecommunications (global telecommunications and information and communication technologies).
8.	UNESCO	Education, science and culture (education, scientific cooperation, culture and the protection of heritage).
9.	UNIDO	Industrial development (inclusive and sustainable industrial development).
10.	UN Tourism	Tourism (promotion and development of sustainable tourism).
11.	UPU	Postal cooperation (international postal services and cooperation).
12.	WHO	Health (international public health and disease control).
13.	WIPO	Intellectual property (protection and cooperation on intellectual property).
14.	WMO	Weather, climate and water (meteorology, climate services and water resources).
15.	World Bank	Development finance (financial and technical support for development).

Illustrative fields of work (with examples of related agencies)

Food and agriculture (FAO, IFAD)



Aviation (ICAO)



Maritime affairs (IMO)



Communication (ITU)



Education, science and culture (UNESCO)



Weather, climate and water (WMO)



The World Bank Group: a special case

World Bank Group

- World Bank: specialised-agency listing
- ICSID and MIGA: NOT specialised agencies under Articles 57 and 63.

Understanding the distinction:

- The World Bank Group is a family of related institutions for development.
- The UN specialised-agency list includes the World Bank.
- ICSID and MIGA are part of the World Bank Group, but they are NOT UN specialised agencies under Articles 57 and 63 of the UN Charter.
- Belonging to the World Bank Group does not automatically make an entity a UN specialicdd agency.

UN principal organs, specialised agencies and regional organisations

These are three different categories, and they should not be confused:

UN principal organs
≠
UN specialised agencies
≠
Regional organisations

Examples:

- ECOSOC: a UN principal organ (the Economic and Social Council).
- WHO: a UN specialised agency (health).
- SAARC, BIMSTEC and ASEAN: regional organisations (groupings of countries in a region, not UN bodies).

Reminder: Autonomous organisations linked by agreements, not departments of the UN.

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Four agencies: origins, constitutions and headquarters

WHO – World Health Organization

- Constitution adopted on 22 July 1946 at the International Health Conference, New York.
- Entered into force on 7 April 1948.
- Founding year: 1948.
- World Health Day: 7 April.
- Headquarters: Geneva, Avenue Appia.
- First World Health Assembly opened on 24 June 1948 in Geneva.



WHO timeline: adoption → entry into force

- 22 July 1946 — Constitution adopted (International Health Conference, New York)
- → 7 April 1948 — Entered into force

UNESCO – United Nations Educational, Scientific and Cultural Organization

- Constitution adopted and signed on 16 November 1945 in London by 41 States.
- Entered into force on 4 November 1946 after 20 signatories ratified.
- Founding year: 1945.
- Headquarters: Paris.



UNESCO timeline: adoption → entry into force

- 16 November 1945 — Constitution adopted and signed (London, 41 States)
- → 4 November 1946 — Entered into force (after 20 signatories ratified)

ILO – International Labour Organization

- Created in 1919 as part of the Treaty of Versailles.
- Aim: lasting peace based on social justice.
- Moved to Geneva in summer 1920.
- Became a UN specialised agency in 1946.
- Headquarters: Geneva.
- The International Labour Office is the secretariat.
- The Declaration of Philadelphia is annexed to the Constitution.



ILO timeline: formation → relocation

- 1919 — Created as part of the Treaty of Versailles
- → Summer 1920 — Moved to Geneva

FAO – Food and Agriculture Organization of the United Nations

- Founded on 16 October 1945.
- 34 countries signed the constitution at Château Frontenac, Quebec City, Canada.
- Initially headquartered in Washington DC, moved to Rome in 1951.
- Headquarters: Rome.
- World Food Day: 16 October.



FAO timeline: formation → relocation

- 16 October 1945 — Founded; 34 countries signed the constitution (Château Frontenac, Quebec City, Canada)
- → 1951 — Moved to Rome

Founding, constitutional adoption, entry into force and headquarters relocation are different milestones.

Four agencies: leadership and membership

Date basis: November 2026.

Agency	Leadership (Director-General)	In office (tenure)	Membership
WHO	Director-General Tedros Adhanom Ghebreyesus	in office 1 July 2017, re-elected 24 May 2022	194 Member States, 6 regions.
UNESCO	Director-General Khaled El-Enany, 12th	in office 15 November 2025	194 Member States.
ILO	Director-General Gilbert F. Houngbo, 11th	in office October 2022, elected March 2022 for 5 years	187 Member States.
FAO	Director-General QU Dongyu, 9th	in office 1 August 2019, re-elected 2 July 2023 for second 4-year term	194 members = 193 countries + European Union.

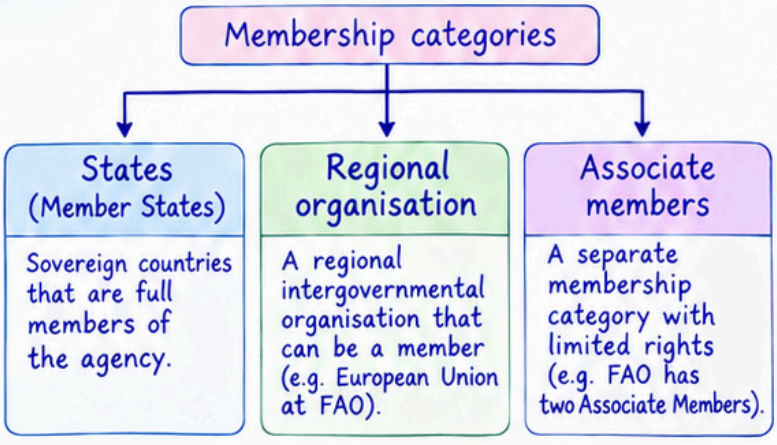
Functional selection flow (Director-General)

Agency	Selection flow (functional)
WHO	World Health Assembly elects/appoints DG.
UNESCO	Executive Board nominates → General Conference elects DG.
ILO	Governing Body elects DG.
FAO	Conference elects DG.

Important distinctions

- FAO's 194 members include 193 countries and the European Union.
- WHO and UNESCO each list 194 Member States.
- FAO has two Associate Members, counted separately.
- WHO continues to list 194 Member States; its notice on the US withdrawal remains pending before its governing bodies.

Membership categories (relevant to these agencies)



- **States (MemberStates)**: full members with voting rights and full participation in the agency's work.
- **Regional organisation**: a non-state intergovernmental organisation that can be a member; at FAO, the European Union is a member and is counted within the 194 members.
- **Associate Members**: a separate category (with limited rights); at FAO, there are two Associate Members, shown separately from 193 Member Nations + EU.

WHO: how decisions become action

World Health Assembly

- Sets policies and programme budget.
- Appoints Director-General.
- Supervises financial policies.

Advice

Decision

Executive Board

- Prepares Assembly agenda.
- Implements Assembly decisions.
- Advises Assembly.

Secretariat

under Director-General

- Carries out work.

About the Assembly

- The Assembly is attended by delegations from all Member States.
- It meets annually in Geneva.
- 79th Assembly: 18 – 23 May 2026.



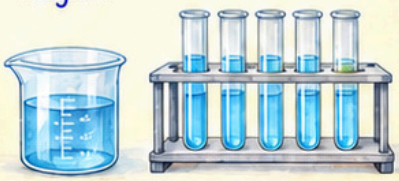
Executive Board

- 34 technically qualified members elected for three-year terms.
- Main meeting in January and a shorter meeting after the Assembly.



Director-General

- Tedros Adhanom Ghebreyesus elected 23 May 2017.
- Took office 1 July 2017.
- Re-elected 24 May 2022 for second five-year term.
- First from WHO's African Region.



Term comparison

Board member term	3 years
Director-General term	5 years



Constitution and first Assembly

- Constitution effective 7 April 1948.
- World Health Day 7 April.
- First Assembly 24 June 1948 in Geneva.



India connection

- WHO Global Traditional Medicine Centre established 2022, with foundational support from Government of India.
- A WHO headquarters department outposted to Jamnagar, Gujarat.
- South-East Asia Regional Office in New Delhi.



Two different global health instruments

International Health Regulations (2005)

- Existing legally binding framework.
- Binding on 197 countries, including WHO's 194 Member States.
- 2024 amendments: resolution WHA77.17.
- Entered into force: 19 September 2025.
- Important exception: rejecting States continue under the applicable earlier versions; entry into force was not identical for every State.



WHO Pandemic Agreement

- Adopted: 20 May 2025, resolution WHA78.1.
- PABS = Pathogen Access and Benefit-Sharing.
- The PABS annex is negotiated by an Intergovernmental Working Group (IGWG).

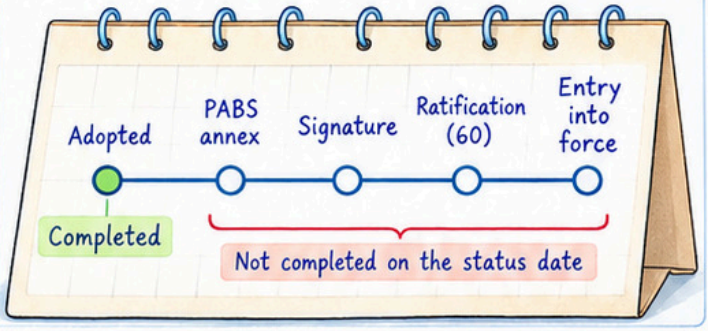


Process for the WHO Pandemic Agreement

1. Agreement adopted
2. Assembly adopts PABS annex — Not completed on the status date.
3. Opens for signature — Not completed on the status date.
4. Sixty countries ratify — Not completed on the status date.
5. Enters into force 30 days later — Not completed on the status date.

Status: 13 November 2026

- Ninth IGWG meeting: 2–13 November 2026.
- PABS annex remained under negotiation.
- Members aimed to finalize it for Assembly consideration in May 2027.
- The Agreement was not yet open for signature or in force.



Conceptual takeaway

- Adoption ≠ signature ≠ ratification ≠ entry into force.
- Do not confuse the binding IHR with the not-yet-in-force Pandemic Agreement.

US withdrawal: distinguish the two agencies

Position checked in November 2026

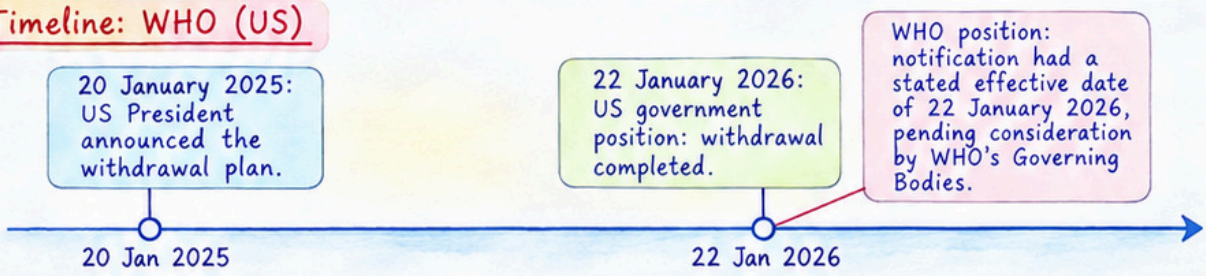
WHO

- 20 January 2025: US President announced the withdrawal plan.
- US government position: withdrawal completed on 22 January 2026.
- WHO position: notification had a stated effective date of 22 January 2026, pending consideration by WHO's Governing Bodies.
- Open questions included unpaid US dues.
- Do not equate the US announcement with a settled WHO institutional position.

UNESCO

- Withdrawal announced: 22 July 2025.
- Effective date: end of December 2026.
- In November 2026, this effective date was still in the future.
- At the announcement, the US contribution represented 8% of UNESCO's total budget.

Timeline: WHO (US)



Timeline: UNESCO (US)



What the 79th Assembly decided

- Resolution WHA79.7, adopted 23 May 2026, concerned Argentina's withdrawal notification only.
- It did not settle the US question.
- WHO's published membership figure remained 194 Member States.

Distinction: key comparison

Item	WHO: contested institutional status	UNESCO: announced future effective date
Announcement date	20 January 2025	22 July 2025
Effective date	22 January 2026	End of December 2026
Institutional position	Notification had a stated effective date of 22 January 2026, pending consideration by WHO's Governing Bodies.	Effective date still in the future in November 2026.

Final exam cue:

- Agency + announcement date + effective date + institutional position: keep all four separate.
- An announced withdrawal is not automatically an effective withdrawal.

UNESCO: education, science, culture and heritage

UNESCO (United Nations Educational, Scientific and Cultural Organization) is a UN specialized agency that works for international cooperation in education, science, culture and the protection of heritage.

Functional governance: three bodies

General Conference
- Highest body.
- Meets every two years.
- Sets programmes and budget.
- Elects Executive Board.
- Appoints Director-General for four years.

Executive Board
- Nominates Director-General candidate.

Secretariat
- Led by Director-General.

Appointment sequence: Executive Board nomination → General Conference election → Director-General takes office.

Leadership

- **Khaled El-Enany:** 12th Director-General and first Arab to hold the office.
- **Elected:** 6 November 2025, 43rd General Conference, Samarkand.
- **Took office:** 15 November 2025.

Constitution

16 November 1945, London: Constitution adopted by 41 States. → 4 November 1946: entered into force after 20 ratifications.

Headquarters: Paris, France.

Membership: 194 Member States.

Heritage



- World Heritage Convention adopted: 16 November 1972.
- India: 45 World Heritage properties (November 2026).

India connection

- India joined UNESCO in 1946.
- Indian National Commission for Cooperation with UNESCO: Ministry of Education, Department of Higher Education.

Concept cue:

- UNESCO protects and promotes heritage; it is not the same institution as UNICEF.
- Appointment procedure matters: the Board nominates; the General Conference elects.

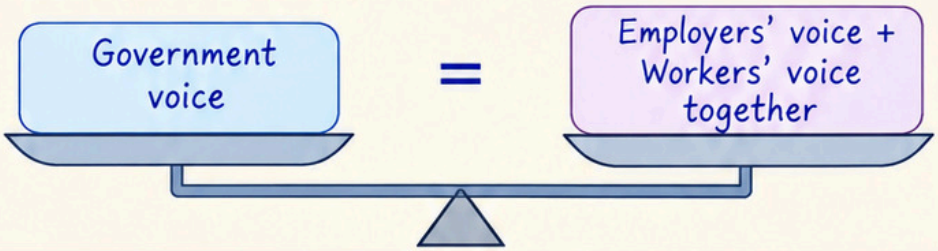
ILO: social justice through tripartism

Founded in 1919 as part of the Treaty of Versailles. Lasting peace requires social justice.

The tripartite participants (equal status)

- Governments
- Employers
- Workers

Equality of voice under tripartism



Employers and workers together have an equal voice with governments.

Constitutional basis: Declaration of Philadelphia is annexed to the ILO Constitution.

Governance: main organs and functions

International Labour Conference:

- meets annually in Geneva;
- sets international labour standards and broad policies.

Governing Body:

- meets three times a year in Geneva;
- takes policy decisions and prepares programme and budget.

International Labour Office:

- permanent secretariat, led by Director-General.

Key milestones: a brief timeline

1919: founded → 1920: moved to Geneva → 1946: became a UN specialised agency → 1969: Nobel Peace Prize in its 50th anniversary year

Leadership

- Gilbert F. Houngbo: 11th Director-General.
- Elected in March 2022 for a five-year term; took office in October 2022.

Membership

- 187 Member States.

India

- Founding member.
- Permanent member of the Governing Body since 1922.
- First ILO office in India established in 1928.

Exam trap: Conference = once each year. Governing Body = three times each year. Do not reverse them.

FAO: food security and agricultural cooperation

Origins and key events

16 October 1945: founded by 34 countries at Château Frontenac, Quebec City, Canada.



→ Initial headquarters: Washington, DC.



→ 1951: headquarters moved to Rome, Italy.



World Food Day: 16 October

Governance

Conference:

- highest governing body;
- meets every two years;
- determines programme and budget;
- elects Director-General.

→

Council:

- executive arm between Conference sessions;
- established at the third Conference in 1947;
- 49 Member Nations elected for three-year terms.

Membership

193 countries  + European Union  = 194 members

Two Associate Members are counted separately.

Leadership

- QU Dongyu: 9th Director-General; born in Hunan, China.
- Took office: 1 August 2019.
- Re-elected: 2 July 2023 for a second four-year term.

India and FAO

- Joined FAO: 16 October 1945.
- Council term: 1 July 2026 to the end of the 46th Conference session in 2029.

From agriculture to food security



Agriculture → 

Food availability → 

Food security

Comparison: frequency of main conferences/assemblies

FAO Conference: biennial. | WHO Assembly: annual. | ILO Conference: annual.

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India and the four specialised agencies

WHO – World Health Organization

- Global Traditional Medicine Centre at Jamnagar, Gujarat, established in 2022.
- Foundational support from the Government of India.
- WHO South-East Asia Regional Office: New Delhi.

Jamnagar: traditional medicine → New Delhi: regional office

UNESCO – United Nations Educational, Scientific and Cultural Organization

- India joined in 1946.
- National Commission: Ministry of Education, Department of Higher Education.
- 45 World Heritage properties (November 2026).



ILO – International Labour Organization

- India is a founding member.
- Permanent member of the Governing Body since 1922.
- First ILO office in India: 1928.



FAO – Food and Agriculture Organization of the United Nations

- India joined on 16 October 1945.
- Council term: 1 July 2026 to the end of the 46th Conference in 2029.
- India sponsored the proposal for the International Year of Millets 2023.



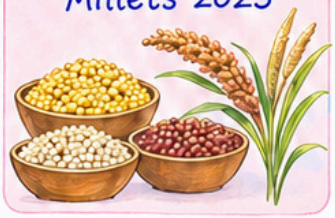
From India's proposal to the International Year of Millets 2023

India's initiative → FAO governing-body support → UN General Assembly proclamation → International Year of Millets 2023









- UN General Assembly resolution A/RES/75/263: adopted 3 March 2021.
- FAO led the celebration with partners.
- Distinguish the resolution year (2021) from the observance year (2023).



The four specialised agencies and their main focus

Health	Heritage and education	Labour	Food and agriculture
WHO	UNESCO	ILO	FAO

From labour justice to world heritage: 1919–1972

Chronological timeline of key events

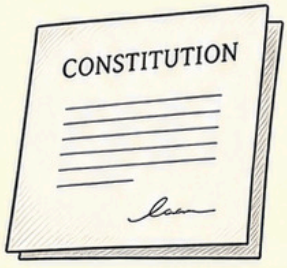
1919	ILO created under Treaty of Versailles.
Summer 1920	ILO moves to Geneva.
1922	India becomes permanent member of ILO Governing Body.
1928	First ILO office in India.
16 October 1945	FAO founded at Quebec City.
16 November 1945	UNESCO Constitution adopted in London.
22 July 1946	WHO Constitution adopted in New York.
4 November 1946	UNESCO Constitution enters into force.
1947	FAO Council established.
7 April 1948	WHO Constitution enters into force; World Health Day.
24 June 1948	First World Health Assembly opens in Geneva.
1951	FAO headquarters moves to Rome.
1969	ILO wins Nobel Peace Prize, its 50th anniversary.
16 November 1972	World Heritage Convention adopted.

Also in 1946

ILO becomes a UN specialised agency; India joins UNESCO.

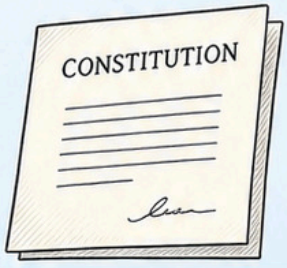
Visual recap: key constitutional milestones

WHO:



Adoption: 1946 → In force: 1948

UNESCO:



Adoption: 1945 → In force: 1946

Recent milestones: 2017–2026

1 July 2017	Tedros takes office at WHO.
1 August 2019	QU Dongyu takes office at FAO.
3 March 2021	UNGA declares 2023 International Year of Millets: A/RES/75/263.
March 2022	Houngbo elected ILO Director-General; in office October 2022.
2022	WHO Global Traditional Medicine Centre established at Jamnagar.
24 May 2022	Tedros re-elected.
2 July 2023	QU Dongyu re-elected.
2024	IHR amendments agreed.
20 January 2025	US President announces plan to leave WHO.
20 May 2025	WHO Pandemic Agreement adopted.
22 July 2025	US withdrawal from UNESCO announced.
19 September 2025	IHR amendments enter into force, with exceptions for rejecting States.
6 November 2025	UNESCO General Conference elects El-Enany.
15 November 2025	El-Enany takes office.
22 January 2026	US says WHO withdrawal complete; WHO notification remains pending institutional consideration.
18–23 May 2026	79th World Health Assembly; WHA79.7 on 23 May addresses Argentina, not US.
1 July 2026	India FAO Council term begins.
2–13 November 2026	Ninth IGWG meeting; PABS annex still under negotiation.

FUTURE

End of December 2026	Announced effective date for US withdrawal from UNESCO.
May 2027	Target Assembly consideration of PABS annex, not an achieved result.

Three traps that change the answer

1. Specialised agencies and the UN

Misconception:

Specialised agencies are ordinary departments of the UN.



Precise correction:

- They are autonomous intergovernmental organisations, with their own membership, budgets and heads, linked to the UN by negotiated agreements.



- IMF and World Bank are listed as specialised agencies. ICSID and MIGA, although in the World Bank Group, are not specialised agencies under Articles 57 and 63.

2. US withdrawal from WHO and UNESCO

Misconception:

The United States has already left both WHO and UNESCO.



Precise correction:

- The US government states its WHO withdrawal was completed on 22 January 2026; WHO's notification remained pending consideration by its Governing Bodies.
- UNESCO withdrawal was announced for the end of December 2026; that date was still future in November 2026.

WHO (US withdrawal)	22 January 2026	US government states withdrawal completed	WHO's notification pending consideration by its Governing Bodies
UNESCO (US withdrawal)	End of December 2026	Withdrawal announced	That date was still future in November 2026

3. Adoption, entry into force and the WHO agreements

Misconception:

Adoption means the WHO Pandemic Agreement is already in force.



Precise correction:

- IHR amendments entered into force on 19 September 2025, with exceptions for rejecting States.
- Pandemic Agreement adopted 20 May 2025; PABS annex must be adopted before signature opens.
- Entry into force: 30 days after 60 ratifications.
- On 13 November 2026, PABS negotiations continued; May 2027 consideration was the goal.

IHR amendments	Pandemic Agreement	PABS annex	Entry into force	13 Nov 2026: PABS negotiations continued; May 2027 consideration the goal.
Entered into force 19 Sept 2025	Adopted 20 May 2025	Must be adopted (then signature opens)	30 days after 60 ratifications	

Autonomy ≠ separation | Announcement ≠ effective withdrawal | Adoption ≠ entry into force

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Practice question 1

Consider the following pairs of a UN specialised agency and a feature of its structure or history:

Agency	Feature
1. WHO	Constitution adopted by an International Health Conference in 1946
2. UNESCO	Director-General in office since 15 November 2025 elected by its 43rd General Conference
3. ILO	Nobel Peace Prize won in 1969
4. FAO	The European Union is one of its members

How many of the pairs given above are correctly matched?

(1) Only one pair
(2) Only two pairs
(3) Only three pairs
(4) All four pairs



Question 1: all four pairs are correct

Answer: (4) All four pairs

1. WHO:

Constitution adopted by the International Health Conference in New York on 22 July 1946; entered into force on 7 April 1948. WHO dates its founding to 1948. Adoption date and founding date are different.

1946 (adoption) → 1948 (entry)

2. UNESCO:

The 43rd General Conference at Samarkand elected Khaled El-Enany on 6 November 2025; he took office on 15 November 2025. The Executive Board nominates, but the General Conference elects. WHO's head is appointed by the World Health Assembly; ILO's head is elected by its Governing Body. Do not transfer one agency's procedure to another.

3. ILO:

Created in 1919; awarded the Nobel Peace Prize in 1969, its 50th anniversary.

4. FAO:

194 members comprise 193 countries and the European Union. The EU is a Member Organization. WHO and UNESCO also publish 194 members, but theirs are Member States; the identical total hides a different composition.

Options (1), (2) and (3) each require at least one incorrect pair. All four pairs are correct, so only option (4) fits.

✓ ✓ ✓ ✓ → 4 correct

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Practice question 2

Consider the following statements about the UN specialised agencies:

1. Under the UN Charter, the Economic and Social Council may enter into agreements with the specialised agencies, defining the terms on which each agency is brought into relationship with the United Nations, and such agreements shall be subject to approval by the General Assembly.
2. The Executive Board of WHO is composed of 34 members elected for five-year terms.
3. India has been a permanent member of the ILO Governing Body since 1922.
4. The International Labour Conference meets three times a year, while the ILO Governing Body meets once a year.

Which of the statements given above is/are correct?

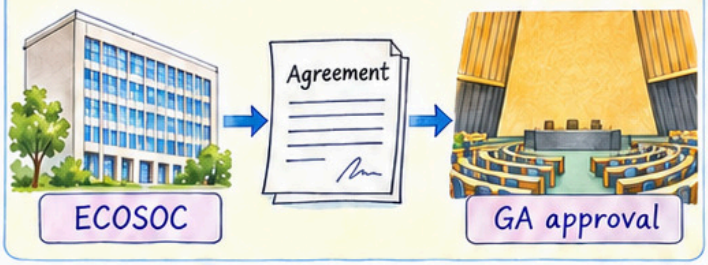
(1) 1 and 2 only
(2) 1 and 3 only
(3) 2 and 4 only
(4) 3 and 4 only

Question 2: distinguish powers, terms and meetings

Answer: (2) 1 and 3 only

1. Correct —

Article 63(1): ECOSOC may enter into agreements with agencies referred to in Article 57, defining their relationship with the United Nations. These agreements require General Assembly approval.



2. Incorrect —

WHO Executive Board: 34 technically qualified members, elected for THREE-year terms, not five. FIVE years is the Director-General's term.

Post	Term
Executive Board (34 members)	3 years
Director-General	5 years

3. Correct —

India is a founding member of the ILO and has been a permanent member of its Governing Body since 1922.



4. Incorrect —

The statement reverses the meeting frequencies.

- International Labour Conference: annually in Geneva.
- Governing Body: three times each year.

Option elimination:

- (1) 1 and 2 only: includes false statement 2 and omits true statement 3.
- (3) 2 and 4 only: includes both false statements and neither true one.
- (4) 3 and 4 only: includes false statement 4 and omits true statement 1.

Final truth pattern: 1 TRUE | 2 FALSE | 3 TRUE | 4 FALSE → option (2)

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Three promises: read the verb

Andhra Pradesh Reorganisation Act, 2014

Section 93: The Union must take the Thirteenth Schedule measures for the progress and sustainable development of the successor States within ten years from the appointed day.

Appointed day: 2 June 2014.

PORT — Item 1: Develop a new major port at Duggirajupatnam in Andhra Pradesh, in phases, with Phase I by end-2018.

STEEL — Item 3: SAIL must examine, within six months, the feasibility of an integrated steel plant in YSR District of Andhra Pradesh.

RAIL — Item 8: Indian Railways must examine, within six months, establishing a new railway zone in Andhra Pradesh and take an expeditious decision.

The obligations differ: develop a port; examine steel feasibility; examine a railway zone and decide.

A study obligation, an announcement, construction and operational service are different stages.

Three parallel tracks: verb, deadline and responsible authority

	Port	Steel	Rail
Legal item	Item 1	Item 3	Item 8
Verb (obligation)	Develop a new major port at Duggirajupatnam.	Examine the feasibility of an integrated steel plant.	Examine establishing a new railway zone and take a decision.
Deadline	Phase I by end-2018.	Within six months.	Within six months.
Responsible authority	Government of India	SAIL.	Indian Railways.

Remember: A study obligation, an announcement, construction and operational service are different stages.

The wider infrastructure schedule

Two steel-plant studies

- Item 2: SAIL feasibility study in Khammam district, Telangana.
- Item 3: SAIL feasibility study in YSR District, Andhra Pradesh. Both have a six-month examination period.

Connectivity and Telangana

- NTPC: establish a 4,000 MW power facility in Telangana after securing coal linkages.
- NHAI: improve roads in backward Telangana regions.
- Railways: examine a Telangana coach factory within six months, improve rail connectivity and decide expeditiously.
- Centre: rapid rail and road links from Andhra Pradesh's new capital to Hyderabad and other important Telangana cities.

Other Andhra Pradesh measures

- IOC or HPCL: examine a greenfield crude-oil refinery and petrochemical complex within six months and decide expeditiously.
- Examine a Vizag–Chennai industrial corridor along Delhi–Mumbai corridor lines within six months and decide within that period.
- Examine international-standard expansion of Visakhapatnam, Vijayawada and Tirupati airports within six months and decide expeditiously.
- Examine metro rail in Visakhapatnam and the Vijayawada–Guntur–Tenali urban region within one year and decide expeditiously.

Organised groups of the wider infrastructure schedule

Wider Infrastructure Schedule

Two Steel Studies

- Item 2: SAIL feasibility study in Khammam district, Telangana.
- Item 3: SAIL feasibility study in YSR District, Andhra Pradesh.
- Both have a six-month examination period.

AP Industry and Transport

- IOC or HPCL: examine a greenfield crude-oil refinery and petrochemical complex within six months and decide expeditiously.
- Examine a Vizag–Chennai industrial corridor along Delhi–Mumbai corridor lines within six months and decide within that period.
- Examine international-standard expansion of Visakhapatnam, Vijayawada and Tirupati airports within six months and decide expeditiously.
- Examine metro rail in Visakhapatnam and the Vijaywaada–Guntur–Tenali urban region within one year and decide expeditiously.

Telangana and Inter-State Links

- NTPC: establish a 4,000 MW power facility in Telangana after securing coal linkages.
- NHAI: improve roads in backward Telangana regions.
- Railways: examine a Telangana coach factory within six months, improve rail connectivity and decide expeditiously.
- Centre: rapid rail and road links from Andhra Pradesh's new capital to Hyderabad and other important Telangana cities.

Timeline: examination and decision periods

Six months: examination →
- Both steel-plant studies (Item 2 and Item 3).
- IOC or HPCL refinery and petrochemical complex.
- Vizag–Chennai industrial corridor.
- Expansion of Visakhapatnam, Vijayawada and Tirupati airports.
- Railways: Telangana coach factory and rail connectivity.

One year: metro examination →
- Metro rail in Visakhapatnam and the Vijayawada–Guntur–Tenali urban region.

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South Coast Railway: how the plan changed

27 February 2019: South Coast Railway (SCoR) announced, with headquarters at Visakhapatnam. The Cabinet decision is dated 28 February 2019.

2019 design

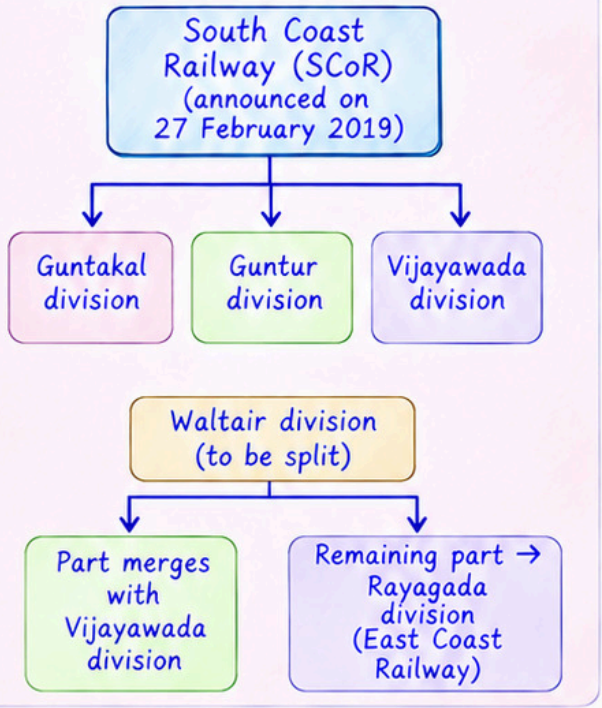
- Guntakal, Guntur and Vijayawada divisions would form the new zone.
- Waltair division would be split: one part would merge with Vijayawada division; the other would become Rayagada division under East Coast Railway.

7 February 2025: Cabinet approved a partial modification.

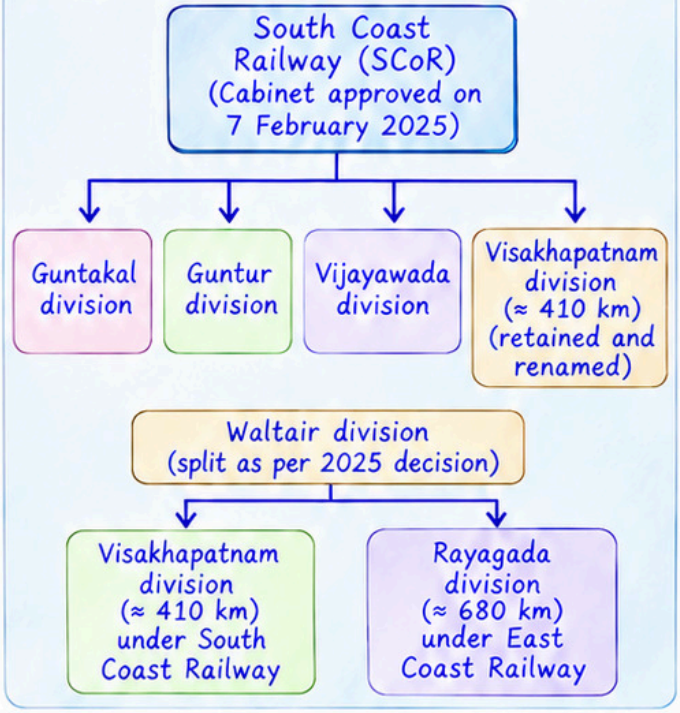
Revised design

- Retain a truncated Waltair division, approximately 410 km, and rename it Visakhapatnam division under South Coast Railway.
- The other part, approximately 680 km, becomes Rayagada division under East Coast Railway.

2019 proposal (original design)



2025 revision (partial modification)



Key distinction: Visakhapatnam is the zone headquarters and also the name of a division. Vijayawada is a division, not the zone headquarters.

These are the approximate lengths stated in the 2025 decision, not a claim about every later jurisdictional measurement.

Announcement is not operation

A railway-zone sequence

27 February 2019 — South Coast Railway announced.
8 January 2025 — Foundation stone laid for its headquarters at Visakhapatnam.
7 February 2025 — Cabinet retains the truncated Waltair division as Visakhapatnam division.
1 June 2026 — South Coast Railway begins operations from Visakhapatnam.

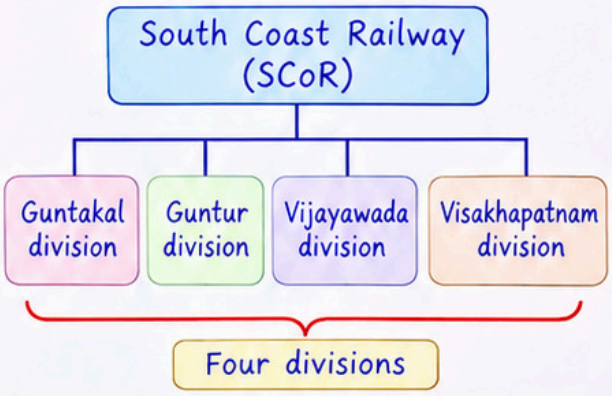
Four divisions:

Guntakal, Guntur, Vijayawada and Visakhapatnam.

Rayagada belongs to East Coast Railway, not South Coast Railway.

Timeline and division structure

27 February 2019	South Coast Railway announced.
8 January 2025	Foundation stone laid for its headquarters at Visakhapatnam.
7 February 2025	Cabinet retains the truncated Waltair division as Visakhapatnam division.
1 June 2026	South Coast Railway begins operations from Visakhapatnam.



Rayagada → East Coast Railway

Read the stages correctly

- Announcement establishes a policy decision; a foundation ceremony concerns infrastructure; operational commencement marks the start of the zonal organisation's functioning.
- An operational zone does not mean every headquarters building or associated railway project is complete.

Exam check: the 2014 Act required examination and an expeditious decision. The 2019 announcement and 2026 operational start are subsequent developments, not the wording of the original provision.

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Kadapa steel: feasibility is not construction

SAIL submitted its feasibility report on 2 December 2014. Its conclusion: an integrated steel plant in YSR Kadapa was prima facie not financially viable.

The finding concerned feasibility under the assessed assumptions; it was not a statement that no steel project could ever be developed.

19 October 2016: a Task Force was constituted to examine feasibility issues and prepare a road map for plants in Andhra Pradesh and Telangana.

Participants included the Union and State Governments, SAIL, RINL, NMDC, MECON and MSTC.

27 December 2017: the follow-up process required State Governments to share data with MECON. States and MECON would work out realistic assumptions; MECON would complete the project report after receiving relevant information.

Dated process chain (2014/2016/2017)

2014 — SAIL feasibility report: not financially viable.

→

2016 — Task Force constituted to examine feasibility issues and prepare a road map.

→

2017 — Follow-up process: States share data with MECON; project report by MECON.

Data-flow for follow-up process

State Governments (data) → MECON (assessment based on State data and realistic assumptions) → Project report (by MECON)

Direction matters: State data → MECON assessment → feasibility / project report.

Steel is a de-regulated sector: investment by a private company is distinct from SAIL establishing a Union public-sector project.

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JSW Rayalaseema: a distinct private project

3 July 2026: construction work launched for the Rayalaseema steel project in YSR Kadapa district.

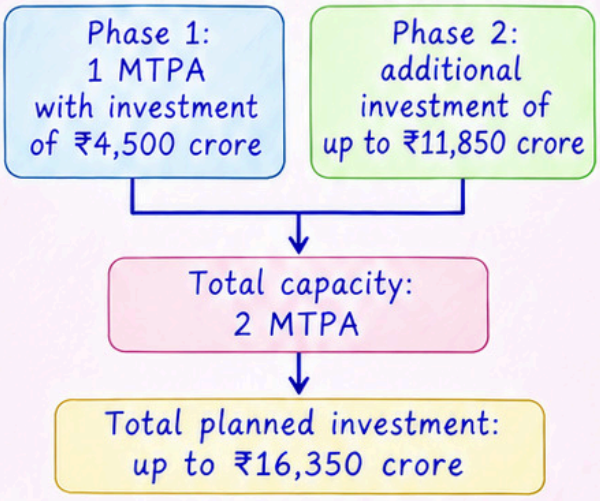
Developer: JSW Rayalaseema Steel Limited, a wholly owned subsidiary of JSW Steel. This is not a newly commissioned SAIL plant.

Planned investment and capacity

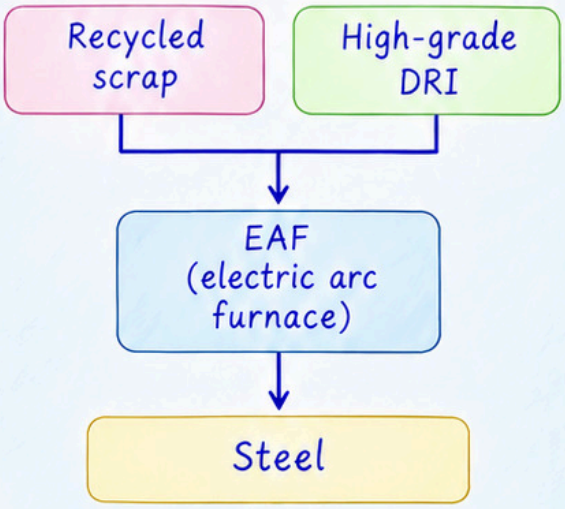
- Phase 1: 1 million tonnes per annum, with investment of ₹4,500 crore.
- Phase 2: an additional investment of up to ₹11,850 crore, taking total planned capacity to 2 million tonnes per annum.
- Total planned investment: up to ₹16,350 crore.

Process: electric arc furnace using recycled scrap and high-grade direct-reduced iron.

Planned capacity and investment (two-stage diagram)



Process diagram: inputs → EAF → steel



Development stages

- Earlier foundation ceremonies at the Kadapa site do not establish commercial production. The July 2026 construction launch is a development milestone, not measured output.

Distinguish carefully: statutory SAIL feasibility study; State-supported project development; private JSW investment; eventual production.

Dugarajapatnam: why viability became central

The original Act names a new major port at Duggirajupatnam, with Phase I by end-2018. Dugarajapatnam is another commonly used spelling.

Before the Act, CCEA approved commissioning a techno-economic feasibility report through RITES. The PPP proposal relied on the State meeting land, rehabilitation/resettlement and external-infrastructure costs.

The State subsequently expressed inability to meet that commitment. Viability gap funding was proposed.

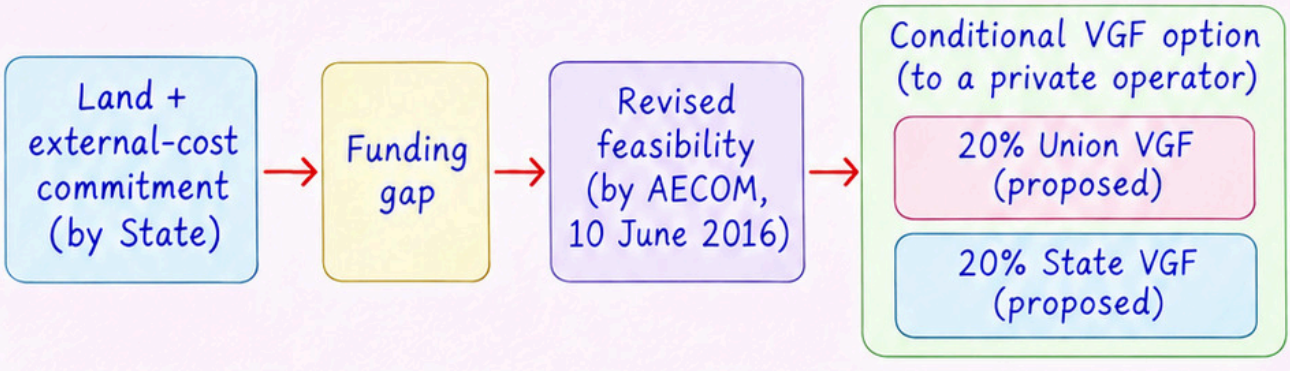
NITI Aayog suggested recasting the project model; AECOM submitted a revised report on 10 June 2016.

The revised assessment put total capital cost at about ₹5,962 crore. With its traffic projections and competitive tariff assumptions, the project had low internal rates of return and was commercially not viable.

A conditional alternative: a full-fledged concession to a private operator, with 20% Union VGF and an additional 20% State VGF, aimed at a 14% project IRR. These were proposed support conditions, not proof of funding actually disbursed.

30 March 2017: the Union response did not propose a major port at Ramayapatnam.

Process chain: from commitment to the conditional option



Dugarajapatnam is not Ramayapatnam

NITI Aayog's assessment identified strong competition from Krishnapatnam, Ennore and Chennai as a reason the proposed Duggirajupatnam major port was not viable.

The State subsequently sought support for Ramayapatnam in place of Duggirajupatnam. Ramayapatnam was notified as a non-major port and its development was taken up by the Andhra Pradesh Government.

Administrative distinction

- Major port: Union administration.
- Non-major port: State Government or State Maritime Board jurisdiction.

"Major" and "non-major" are legal-administrative categories, not simply a ranking by cargo volume, berth count or physical size.

Ramayapatnam is developed through the Ramayapatnam Port Development Corporation under the Andhra Pradesh Maritime Board.

A State non-major port does not automatically satisfy the Act's specifically named new-major-port obligation. A future proposal, construction progress and notified classification must be assessed separately.

Environmental and strategic-location concerns raised by MPs are representations; they must not be confused with the stated economic conclusion of the viability assessment.

Major Port vs Non-Major Port: Comparison

	Duggirajupatnam	Ramayapatnam
Name	Named port in 2014 Act	State-developed port
Act wording	"New major port"	"Not the port named in this provision"
Administration	Union major-port proposal	State Government / AP Maritime Board
Status	Original major-port obligation	Notified non-major port

Control / Jurisdiction

Major port	→	Union
Non-major port	→	State

Port updates: proposals are not completion

Ramayapatnam

A Union reply dated 22 July 2025 recorded 67.11% physical progress up to June 2025. This is a historical baseline, not a current completion percentage.

On 12 November 2026, Ramayapatnam was among four Andhra Pradesh greenfield port projects described as under construction, alongside Mulapeta, Machilipatnam and Kakinada SEZ.

Dugarajapatnam shipbuilding proposal

A proposed shipbuilding cluster received in-principle approval under the National Shipbuilding Mission.

Envisaged investment: approximately ₹30,000 crore. Planned annual capacity: 1.2 million gross tonnes.

A joint special-purpose vehicle involving Andhra Pradesh Maritime Board and Visakhapatnam Port Authority had been formed.

Do not merge different developments

A proposed shipbuilding cluster is not the same as completion of the 2014 Act's major-port promise. In-principle approval is not an operational yard, and projected capacity is not achieved output.

Always attach a reference date to progress figures and distinguish approved plans from measured achievements.

Approval – construction – operation comparison

Approval
Proposal / in-principle approval

→

Construction
Works in progress (under construction)

→

Operation
Operational port / yard

Ramayapatnam
Under construction: 12 November 2026.

Shipbuilding-cluster planned figures

Envisaged investment: approximately ₹30,000 crore.

Planned annual capacity: 1.2 million gross tonnes.

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Compare the three paths

RAILWAY ZONE

Act: examine establishing a new zone and decide expeditiously.
Later path: 2019 announcement → 2025 divisional revision → operations from 1 June 2026.

Obligation	Assessment	Implementing Agency	Dated Outcome
Examine establishing a new zone	Decision to establish the zone and issue revisions	Railway administration	2019 announcement; 2025 divisional revision; operations from 1 June 2026

STEEL PLANT

Act: SAIL examines integrated-plant feasibility in YSR District.
Later path: 2014 adverse feasibility finding → Task Force/MECON reassessment → private JSW construction launch in July 2026.

Obligation	Assessment	Implementing Agency	Dated Outcome
SAIL examines integrated-plant feasibility in YSR District	2014 adverse feasibility finding; Task Force/MECON reassessment	SAIL; Task Force/MECON; private JSW	Private JSW construction launch in July 2026

PORT

Act: develop a new major port at Duggirajupatnam, Phase I by end 2018.
Later path: adverse commercial-viability assessment → State-developed Ramayapatnam non-major port; separate 2026 shipbuilding-cluster proposal at Dugarajapatnam.

Obligation	Assessment	Implementing Agency	Dated Outcome
Develop a new major port at Duggirajupatnam, Phase I by end 2018	Adverse commercial-viability assessment	State Government (for Ramayapatnam non-major port)	State-developed Ramayapatnam non-major port; separate 2026 shipbuilding-cluster proposal at Dugarajapatnam

Three exam traps

1. Announcement ≠ operational start: 2019 versus 2026 for the zone.
2. Foundation or construction launch ≠ commercial production; do not call a proposed steel capacity actual output.
3. Two steel studies: Khammam belongs to Telangana; YSR Kadapa belongs to Andhra Pradesh.

The central comparison is obligation → assessment → implementing agency → dated outcome, not a single blanket "completed/not completed" label.

2026 railway jurisdiction: read the units

Notification dated 4 May 2026; effective from 1 June 2026.

Rayagada division, East Coast Railway:

2026 | 696 route km

Visakhapatnam division, South Coast Railway:

2026 | 463 route km

The Palasa–Ichchapuram section, including Ichchapuram, accounts for 53 route km transferred from Khurda Road division to Visakhapatnam division.

Khurda Road division → 53 route km → Visakhapatnam division

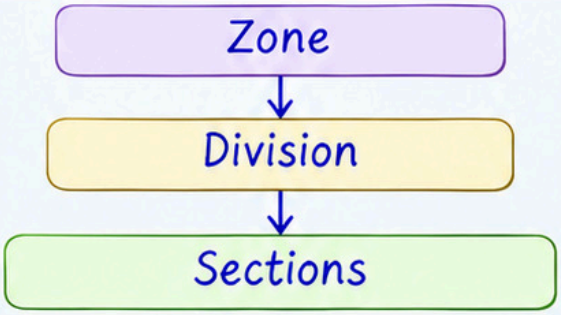
2025 versus 2026

The 2025 Cabinet revision described approximately 410 km and 680 km for the two parts of Waltair. The 2026 notification specifies divisional route-kilometre totals after jurisdictional adjustments.

Do not interchange approximate planning figures with later notified route-kilometre totals. A numerical difference alone does not establish every reason for a revised total.

Administrative hierarchy

A zone contains divisions; a division contains rail sections. A division's headquarters, a zone's headquarters and the length of a rail section are different kinds of information.



Q1. Consider the following statements about the railway zone promised in the Andhra Pradesh Reorganisation Act, 2014:

1. The South Coast Railway zone, announced in February 2019, has its headquarters at Vijayawada.

2. Under the Railway Board notification of May 2026, the part of the Waltair division that went to the new zone forms its Visakhapatnam division.

3. The Union Cabinet's decision of February 2019 already provided for a separate Visakhapatnam division in the new zone.

4. The Thicteenth Schedule of the Act required Indian Railways to establish a new railway zone in Andhra Pradesh.

Which of the statements given above is/are correct?

- (1) 2 only ☐
- (2) 1 and 3 only ☐
- (3) 1, 2 and 4 only ☐
- (4) 3 and 4 only ☐

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Q1. Answer: (1) 2 only

Statement 1: Incorrect : Statement 1 is wrong: The 2019 announcement places Visakhapatnam as the headquarters of South Coast Railway. Vijayawada is the name of one of its divisions.

Statement 2: Correct : Statement 2 is correct: the Railway Board notification of 4 May 2026 (effective 1 June 2026) splits the Waltair division; the new Rayagada division goes to East Coast Railway, and the rest is renamed the Visakhapatnam division of South Coast Railway.

Statement 3: Incorrect : Statement 3 is wrong: the 2019 decision proposed merging the relevant Waltair part with Vijayawada division. The separate Visakhapatnam division came from the Cabinet's partial change approved in February 2025.

Statement 4: Incorrect : Statement 4 is wrong: item 8 of the Schedule asked Indian Railways to "examine establishing" a new zone and take an expeditious decision. It did not require the zone to be set up.

Related changes (comparison):

2019 decision	→	Railway Board notification (4 May 2026, effective 1 June 2026)
Proposed merging the relevant Waltair part with Vijayawada division.	→	Splits the Waltair division; the new Rayagada division goes to East Coast Railway, and the rest is renamed the Visakhapatnam division of South Coast Railway.

Why the other options are wrong:

Option (2):	(2) has statements 1 and 3, both wrong, and leaves out statement 2.
Option (3):	(3) adds statements 1 and 4, which are wrong.
Option (4):	(4) has statements 3 and 4, both wrong, and leaves out statement 2.

Q2. Consider the following statements about the steel plant and the port promised in the Thirteenth Schedule of the Andhra Pradesh Reorganisation Act, 2014:

1. SAIL's feasibility report of December 2014 found an integrated steel plant in YSR Kadapa district prima facie not financially viable.

2. At its meeting of December 2017, the Task Force on steel plants decided that the State Government would prepare the fresh feasibility report, using data supplied by MECON.

3. AECOM's revised report of June 2016 found the Dugarajapatnam port project commercially not viable under the traffic and tariff assumptions then made.

4. In March 2017 the Ministry of Shipping told the Lok Sabha that the Government proposed to set up a major port at Ramayapatnam.

Which of the statements given above is/are correct?

- ☐ (1) 1 and 2 only
- ☐ (2) 2 and 4 only
- ☐ (3) 1 and 3 only
- ☐ (4) 3 and 4 only

Q2. Answer: (3) 1 and 3 only

Statement 1: Correct

Statement 1 is correct: SAIL's report of 2 December 2014 found the plant "prima facie not financially viable".

Statement 2: Incorrect

Statement 2 is wrong: the relation is reversed. At the meeting of 27 December 2017 it was decided that the State Governments would share data with MECON, and MECON would prepare the feasibility report.

Meeting of 27 December 2017

State Governments would share data with MECON → MECON would prepare the feasibility report

Statement 3: Correct

Statement 3 is correct: AECOM's revised report, submitted on 10 June 2016, found the project commercially not viable under the traffic and tariff assumptions then made.

Statement 4: Incorrect

Statement 4 is wrong: The Union did not propose a major port at Ramayapatnam in its 30 March 2017 response. Ramayapatnam is being built by the State as a non-major port.

Why the other options are wrong:

Option (1): Incorrect	(1) includes statement 2 and leaves out statement 3.
Option (2): Incorrect	(2) includes statements 2 and 4, both wrong.
Option (4): Incorrect	(4) includes statement 4 and leaves out statement 1.

Sustainable development: needs, limits and balance

THE CORE IDEA

Meet present needs without undermining future generations' ability to meet their needs.

Our Common Future (1987), the Brundtland Report, made this definition central to development policy.

TWO KEY CONCEPTS

- **NEEDS:** give overriding priority to the essential needs of the world's poor.
- **LIMITATIONS:** technology and social organisation affect the environment's ability to meet present and future needs.
- Better technology and organisation can improve possibilities; natural systems still have limits.

THREE CONNECTED DIMENSIONS

ECONOMIC: growth, incomes and livelihoods.



These dimensions are interdependent, not alternatives.

SOCIAL: meet essential needs for jobs, food, energy, water and sanitation.

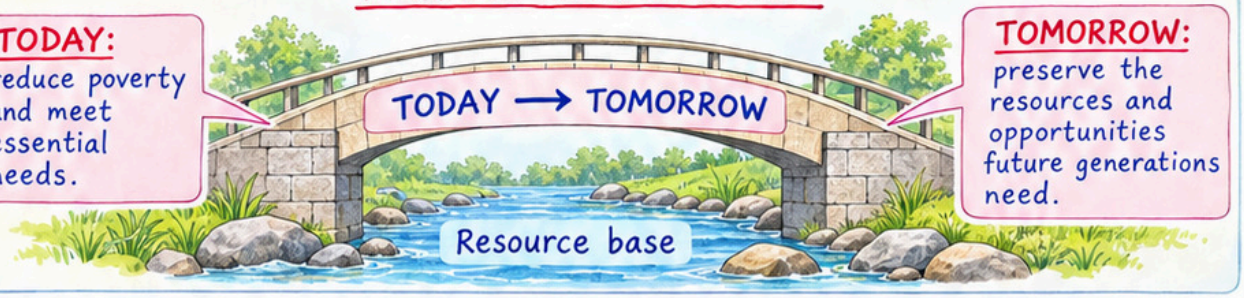


ENVIRONMENTAL: conserve and enhance the natural-resource base.



ACROSS GENERATIONS

TODAY: reduce poverty and meet essential needs.



TOMORROW: preserve the resources and opportunities future generations need.

NOT SIMPLY 'STOP GROWTH'

- Change the quality of growth, conserve resources, improve technology and manage risk.
- Economic progress that destroys its resource base cannot remain sustainable.

CHECK YOUR RECALL

- 1987 → Our Common Future.
- 1992 → Rio Earth Summit.
- The definition predates the Rio summit.

Brundtland: a different quality of growth

THE COMMISSION AND REPORT

- World Commission on Environment and Development (WCED), established in 1983.
- Chair: Gro Harlem Brundtland of Norway.
- UN General Assembly resolution 38/161: 19 December 1983.
- Our Common Future: 1987; UN document A/42/427 dated 4 August 1987.
- Foreword: Oslo, 20 March 1987.
- The name Brundtland Report comes from the Commission's chair.



WHY GROWTH STILL MATTERS

- In developing countries, growth, poverty reduction and environmental conditions are closely connected.
- Meet basic needs and give everyone opportunities for a better life.
- Change growth's quality, content and resource intensity, not merely its size.



CHRONOLOGICAL RIBBON

1983 WCED established → 19 December 1983 UN General Assembly resolution 38/161 → 20 March 1987 Foreword (Oslo) → 4 August 1987 UN document A/42/427 → 1987 Our Common Future (Brundtland Report)

SEVEN POLICY OBJECTIVES

1. Revive growth.
2. Change the quality of growth.
3. Meet essential needs: jobs, food, energy, water and sanitation.
4. Ensure a sustainable population level.
5. Conserve and enhance the resource base.
6. Reorient technology and manage risk.
7. Integrate environment and economics in decisions.

LINKING THE THREE PILLARS

- Technology, risk management and integrated decisions connect all three.
- Sustainability does not mean stopping growth; it means avoiding growth that destroys its own resource base.



Weak and strong sustainability

THE CENTRAL QUESTION

How far can human-made capital replace natural capital?

- **Natural capital:** ecosystems and natural resources.
- **Human-made capital:** produced assets such as machinery and infrastructure.

WEAK SUSTAINABILITY

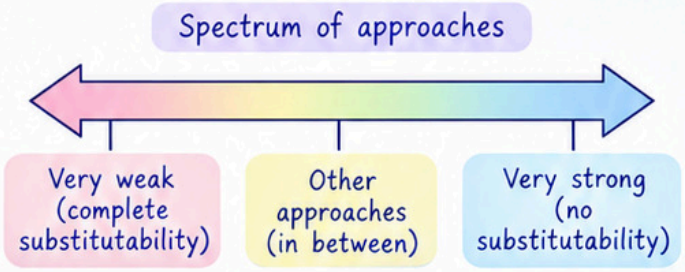
- Keep total capital intact; its composition may change.
- A loss of natural capital may be offset by enough additional human-made capital.
- Capital types are treated as substitutes.
- The total stock matters rather than separate protection of critical natural capital.
- Associated with the Hartwick–Solow approach.

STRONG SUSTAINABILITY

- Protect natural capital separately, especially critical natural capital.
- Substitution is limited by irreversibility and uncertainty.
- Natural and human-made capital are complementary, not perfect substitutes.
- Critical natural capital provides unique contributions to welfare that cannot simply be replaced.
- Associated with Herman Daly and other ecological economists.

A RANGE, NOT JUST TWO BOXES

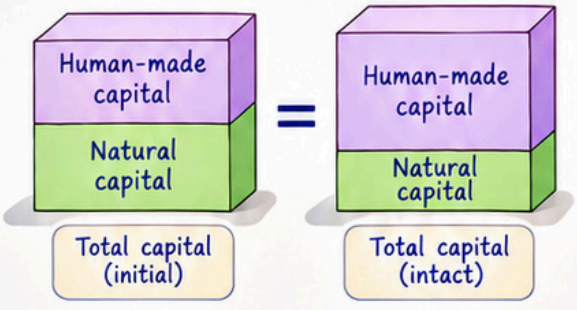
- Very weak: assumes complete substitutability between capital stocks.
- Very strong: assumes no substitutability.
- Other approaches fall between these extremes.



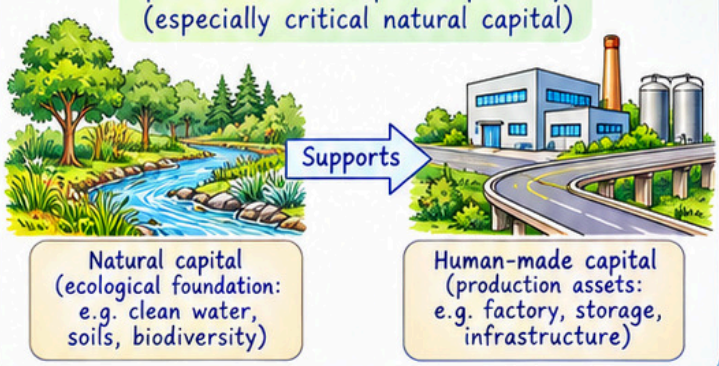
ILLUSTRATIVE COMPARISON

- Weak test: does total capital remain intact?
- Strong test: are essential ecological functions also preserved?
- A new machine cannot automatically replace the functions of an irreplaceable ecosystem.

Weak sustainability:
keep total capital intact
(composition may change)



Strong sustainability:
protect natural capital separately
(especially critical natural capital)



Resource use within ecological limits

TWO CAPACITIES

Carrying capacity: the population and economic activity an environment can sustain over time.

Absorptive capacity: the environment's ability to absorb or assimilate waste and degradation without unacceptable damage.

Resource use must respect regeneration; waste must remain within assimilative capacity.

DALY'S SUSTAINABILITY PRINCIPLES

1. Keep population within environmental carrying capacity.
2. Prefer input-efficient technology, not technology that continually increases resource consumption.
3. Renewable resources: extraction must not exceed regeneration.
4. Non-renewable resources: depletion must not exceed creation of renewable substitutes.
5. Correct pollution-related inefficiencies; keep waste emissions within natural assimilative capacity.

THREE FLOW CHECKS

- Renewable harvest ≤ regeneration.
- Waste emissions ≤ natural absorption.
- Non-renewable depletion ≤ creation of renewable substitutes.

DO NOT CONFUSE THE RULES

- A renewable resource can regenerate on relevant human timescales.
- A non-renewable resource does not regenerate on those timescales: the relevant rule is substitute creation, not its own regeneration.

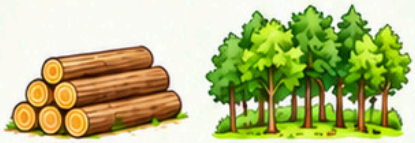
ILLUSTRATIVE EXAMPLE



- A forest harvested faster than it regrows loses its renewable resource base.
- A river receiving waste faster than it can assimilate it exceeds the pollution limit.

These are resource and waste constraints, not permission to exhaust nature.

1. Regeneration versus harvest



Harvest ≤ Regeneration

Renewable harvest must not exceed regeneration.

2. Emissions versus absorption



Waste emissions ≤ Natural absorption

Waste must stay within assimilative capacity.

3. Depletion versus substitutes



Non-renewable depletion ≤ Creation of renewable substitutes

Develop renewable substitutes as non-renewable resources decline.

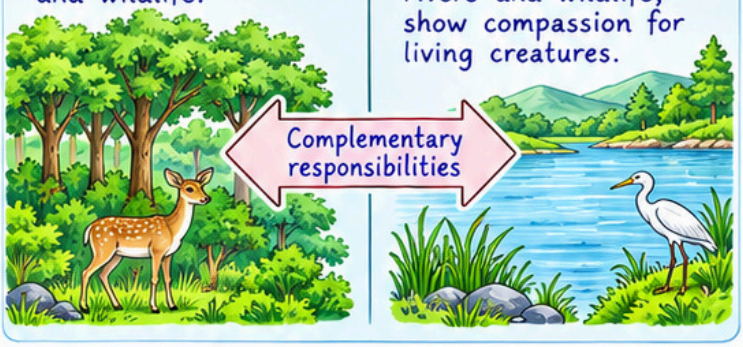
India: duties, lifestyles and practical choices

CONSTITUTIONAL RESPONSIBILITIES

- **Article 48A:** Directive Principle addressed to the State.
- Protect and improve the environment; safeguard forests and wildlife.
- **Article 51A(g):** Fundamental Duty of every citizen.
- Protect and improve the natural environment, including forests, lakes, rivers and wildlife; show compassion for living creatures.
- Both were added by the 42nd Constitutional Amendment Act, 1976.
- Lakes, rivers and compassion for living creatures are explicitly named in Article 51A(g).

State (Article 48A)
Protect and improve the environment; safeguard forests and wildlife.

Citizen (Article 51A(g))
Protect and improve the natural environment, including forests, lakes, rivers and wildlife; show compassion for living creatures.



MISSION LiFE

- Launched 20 October 2022 at the Statue of Unity, Ekta Nagar, Kevadia, Gujarat.
- P3 = Pro Planet People.
- Encourages environmentally responsible individual and collective lifestyles.



PRACTICAL STRATEGIES

- **Energy:** wind, solar photovoltaic cells, mini-hydel plants and other non-conventional sources.
- **Rural options:** gobar gas and cleaner cooking transitions such as LPG.
- **Urban option:** CNG as a lower local-pollution fuel transition.
- **Knowledge and farming:** traditional practices, biocomposting and biological pest control.
- LPG and CNG are fossil fuels, NOT renewable energy sources.

Energy (non-conventional sources)



Rural options



Urban option



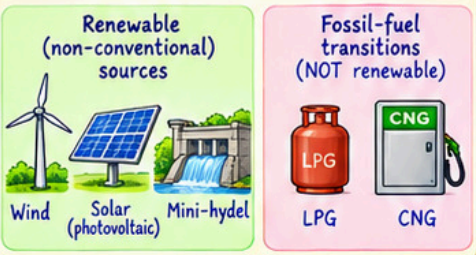
Knowledge and farming



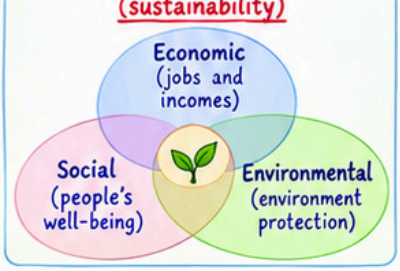
GLOBAL FRAMEWORK

- 2030 Agenda adopted 25 September 2015, UN General Assembly resolution 70/1.
- 17 Sustainable Development Goals; 169 targets.
- Economic, social and environmental dimensions must be pursued together.
- A policy cannot neglect jobs and incomes while claiming that environmental protection alone is sustainability.

Energy classification



Three dimensions together (sustainability)



From Stockholm to the Earth Summit

1972 | STOCKHOLM

- 5–16 June: UN Conference on the Human Environment.
- Stockholm Declaration: 26 principles.
- Action Plan for the Human Environment: 109 recommendations.
- A major result was the creation of UNEP.



1983 | WCED

- World Commission on Environment and Development established.
- UN General Assembly resolution 38/161, 19 December, welcomed the special commission.
- Chair: Gro Harlem Brundtland, Norway.



1987 | OUR COMMON FUTURE

- WCED report; UN document A/42/427, dated 4 August 1987.
- Present needs and future generations' needs brought together in the sustainable-development definition.



1992 | RIO EARTH SUMMIT

- 3–14 June: UN Conference on Environment and Development, Rio de Janeiro.
- More than 178 countries adopted Agenda 21.
- Rio Declaration: 27 principles.
- Forest principles; UNFCCC and Convention on Biological Diversity opened for signature.
- Led to the Commission on Sustainable Development.



Key comparison: principles

Stockholm Declaration **26** principles VS Rio Declaration **27** principles

Stockholm: 26 principles + 109 recommendations.

Rio: 27 principles + Agenda 21.

Key facts

- The 1987 definition predates the 1992 Rio summit by five years.
- Stockholm: 26 principles + 109 recommendations.
- Rio: 27 principles + Agenda 21.

Chronological path (at a glance)

- **1972** — Stockholm: UN Conference on the Human Environment.
- **1983** — WCED established.
- **1987** — Our Common Future: WCED report and sustainable-development definition.
- **1992** — Rio Earth Summit: Agenda 21, 27 principles, UNFCCC and Convention on Biological Diversity.

From the Millennium Goals to the SDGs

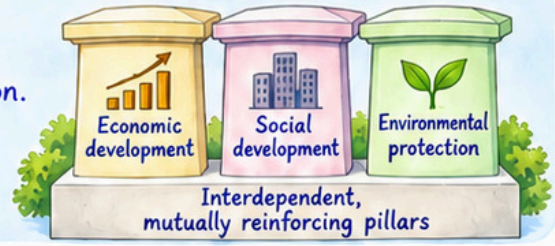
2000 | MILLENNIUM SUMMIT, NEW YORK

September: Millennium Declaration.
The eight Millennium Development Goals developed from this framework; their target horizon was 2015.



2002 | JOHANNESBURG

World Summit on Sustainable Development.
Johannesburg Declaration and Plan of Implementation.
Economic development, social development and environmental protection: interdependent, mutually reinforcing pillars.



2012 | RIO+20

20–22 June: UN Conference on Sustainable Development, Rio de Janeiro.
Outcome: The Future We Want.
Launched the process to develop SDGs; decided to establish the High-level Political Forum on Sustainable Development.



2013 | FOLLOW-UP INSTITUTIONS

General Assembly established a 30-member Open Working Group to propose SDGs.
HLPF institutional arrangements adopted in July 2013.



2015 | 2030 AGENDA

Adopted 25 September at the UN Sustainable Development Summit, held 25–27 September.
17 goals; 169 targets; implementation horizon 2030.
Integrated and indivisible economic, social and environmental goals.



TWO RIO CONFERENCES

1992: Earth Summit → Agenda 21.

2012: Rio+20 → The Future We Want.

Twenty years apart; not interchangeable.

REVISION CHECK

Sustainability is not stopping growth, not environment alone, and not confusing the State's Article 48A with citizens' Article 51A(g).





8 MDGs — Horizon: 2015 → **17 SDGs** — Horizon: 2030



Practice question 1

Q1. Consider the following statements about the concept of sustainable development:

1. The Brundtland Report says that its definition of sustainable development contains two key concepts: the concept of "needs", in particular the essential needs of the world's poor, and the idea of limitations imposed by the state of technology and social organisation on the environment's ability to meet present and future needs.

2. Absorptive capacity is the ability of the environment to absorb degradation.

3. Weak sustainability is concerned with keeping the total capital stock intact, without regard to how that capital is divided among its different kinds.

4. Among Herman Daly's requirements for sustainable development, the rate of depletion of non-renewable resources should not exceed their rate of regeneration.

Which of the statements given above is/are correct?

(1) 1 and 2 only

(2) 1, 2 and 3 only

(3) 2, 3 and 4 only

(4) 1, 3 and 4 only

Question 1: complete explanation

Q1. Answer: (2) 1, 2 and 3 only

Statement-by-statement reasoning:

Statement 1	Correct	The two key concepts are the concept of needs, in particular the essential needs of the world's poor, to which overriding priority should be given, and the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs.
Statement 2	Correct	Absorptive capacity means the ability of the environment to absorb degradation.
Statement 3	Correct	Weak sustainability is concerned with maintaining the total capital stock intact, without regard to the partitioning of that capital among its kinds. It is strong sustainability that calls for keeping the separate capital stocks.
Statement 4	Wrong	For non-renewable resources, depletion must not exceed the creation of renewable substitutes. The test of the rate of regeneration is the separate requirement for renewable resources; a non-renewable resource does not regenerate.

Renewable versus non-renewable: rate comparison

Renewable resource		Rate of extraction (use)	≤	Rate of regeneration (natural replenishment)
Non-renewable resource		Rate of depletion (use)	≤	Rate of creation of renewable substitutes

Key: definitions used

- **Absorptive capacity** : ability of the environment to absorb degradation.
- **Weak sustainability** : keeping total capital intact, regardless of its composition.
- **Strong sustainability** : keeping the separate capital stocks.

Why the other options are wrong:

Option (1)	Wrong	Leaves out statement 3, which is correct.
Option (3)	Wrong	Includes statement 4, which is wrong, and leaves out statement 1.
Option (4)	Wrong	Includes statement 4 and leaves out statement 2.

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Practice question 2

Q2. Match List I (Conference or commission) with List II (A feature of it) and select the correct answer using the code given below the lists:

List I (Conference or commission)	List II (A feature of it)
A. United Nations Conference on the Human Environment, Stockholm	1. A declaration of 27 principles, plus the forest principles
B. United Nations Conference on Environment and Development, Rio de Janeiro	2. The outcome document "The Future We Want"
C. World Commission on Environment and Development	3. A declaration of 26 principles and an action plan of 109 recommendations
D. United Nations Conference on Sustainable Development (Rio+20)	4. Its chair was from Norway; created as a consequence of General Assembly resolution 38/161

Code:

(1) A-3, B-1, C-4, D-2

(2) A-1, B-3, C-2, D-4

(3) A-3, B-1, C-2, D-4

(4) A-1, B-3, C-4, D-2

Question 2: complete explanation

Q2. Answer: (1) A-3, B-1, C-4, D-2

A-3	**Stockholm Conference** 5 to 16 June 1972 	• The Stockholm Conference of 5 to 16 June 1972 adopted the Stockholm Declaration, which contained 26 principles, and the Action Plan for the Human Environment, broken down into 109 recommendations. The conference also led to UNEP.
B-1	**Earth Summit at Rio de Janeiro** 3 to 14 June 1992 	• The Earth Summit at Rio de Janeiro, 3 to 14 June 1992, gave the Rio Declaration with its 27 universal principles and the forest principles, besides Agenda 21.
C-4	**World Commission on Environment and Development** 	• The World Commission on Environment and Development was chaired by Gro Harlem Brundtland of Norway and was created as a consequence of General Assembly resolution 38/161 of 19 December 1983; it gave its report *Our Common Future* in 1987 (A/42/427).
D-2	**Rio+20** United Nations Conference on Sustainable Development June 2012 	• Rio+20, the United Nations Conference on Sustainable Development of June 2012, adopted *The Future We Want*, which launched the process for the SDGs.

Why the other options are wrong:

(2)	• exchanges Stockholm with Rio 1992 and also exchanges the Commission with Rio+20, so all four pairs are wrong.
(3)	• gets Stockholm and Rio 1992 right but gives *The Future We Want* to the Commission, and the chair from Norway and resolution 38/161 to Rio+20.
(4)	• gets the Commission and Rio+20 right but gives the 27-principle declaration and the forest principles to Stockholm, and the 26-principle declaration and the 109 recommendations to Rio 1992.

India: one monsoon climate, many regional contrasts

India has a hot monsoonal climate, characteristic of South and Southeast Asia. Seasonal wind reversal gives broad unity; temperature, rainfall and seasonal rhythm vary sharply.

Main controls of India's regional climate

Latitude



Position from north to south changes heat input.

Himalayas



A high mountain barrier that influences winds and rainfall.

Land and sea



Different heating and cooling of land and sea drives the monsoon and rainfall patterns.

Altitude and relief



Changes in height and terrain create sharp local differences in temperature and rainfall.

→ **Regional climate diversity**

Temperature contrasts

Illustrative contrasts, not current weather readings.



June: Churu, Rajasthan may reach **50 °C** or more; Tawang, Arunachal Pradesh may remain around **19 °C**.



December nights: Drass, Ladakh can be extremely cold, around **−45 °C** in the descriptive example.

Rainfall contrasts

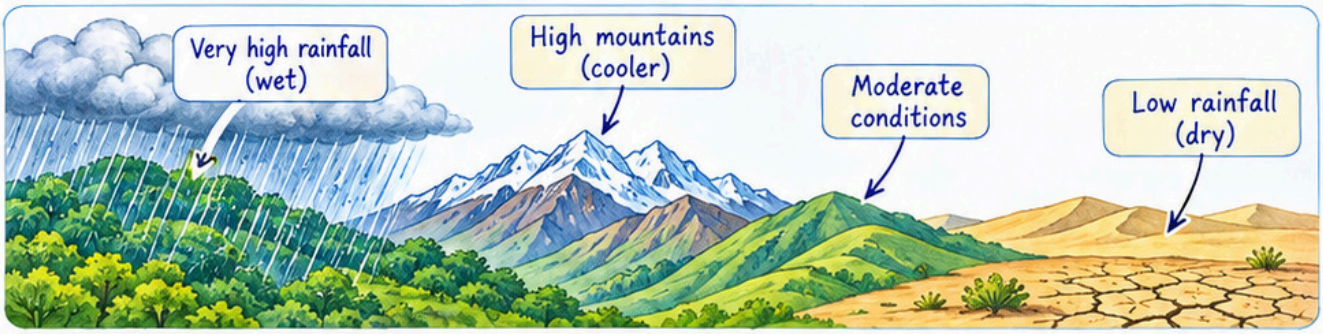
Different reference measures: do not treat as a same-period comparison.



Khasi Hills: Cherrapunji and Mawsynram can receive over 1,080 cm annually.



Jaisalmer: mean annual rainfall 201.6 mm, 1981 – 2010 baseline.



Unity: monsoon rhythm. Diversity: heat, cold, wetness, dryness and local relief.

Climate describes long-term patterns; individual examples are not the latest recorded observations.

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Latitude and the Himalayan climatic divide

Latitude and climatic zones

Latitude is the angular distance of a place from the Equator. It controls the amount of solar heating received and helps create broad climatic zones.

- Higher latitudes
- Temperate zone
- Subtropical zone

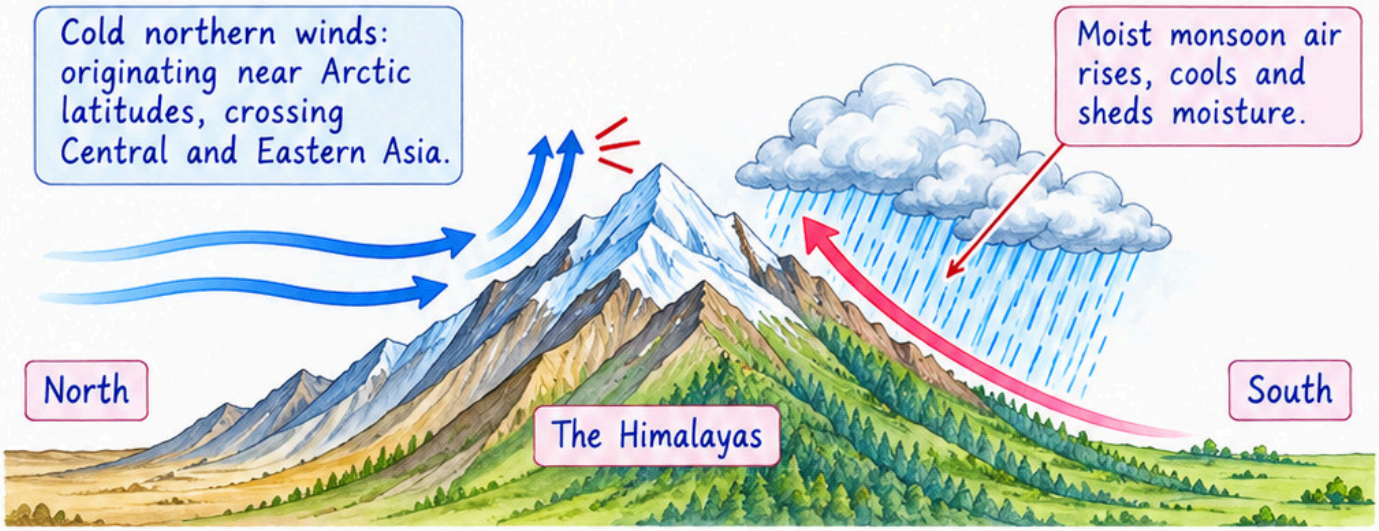
North: subtropical and temperate influences; greater seasonal contrasts.

--- Tropic of Cancer crosses central India east-west ---

- Tropical zone
- Lower latitudes

South: tropical zone; generally high temperatures throughout the year.

The Himalayan climatic divide



The high Himalayas and their extensions act as an effective climatic divide.

They shield the subcontinent from cold northern winds and obstruct moisture-bearing monsoon winds.

Cause and effect

Latitude controls solar heating. → Mountain barrier modifies air movement and rainfall.

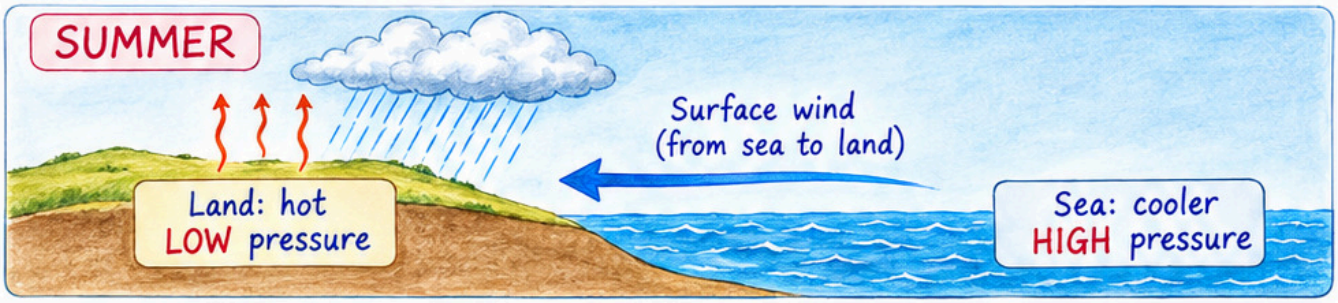
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Land, sea and the seasonal reversal

Water heats and cools more slowly than land. Seasonal pressure differences help reverse monsoon winds.

India is bordered by the Indian Ocean on three sides to the south and by a high mountain wall to the north.

Simplified land–sea contrast; monsoon circulation also involves wider atmospheric processes.





Coastal moderation:

Mumbai and Konkan coast; smaller seasonal temperature contrasts because the sea moderates heating and cooling.



Continentality:

Delhi, Kanpur and Amritsar; larger seasonal contrasts because the interior is far from the sea.



Annual temperature range (conceptual, not measured)

Coastal (Mumbai, Konkan coast)



Interior (Delhi, Kanpur, Amritsar)



Distance from sea changes the annual temperature range; latitude alone cannot explain the coastal–interior contrast.

Altitude and relief: height changes climate

Agra:
January temperature about 16°C



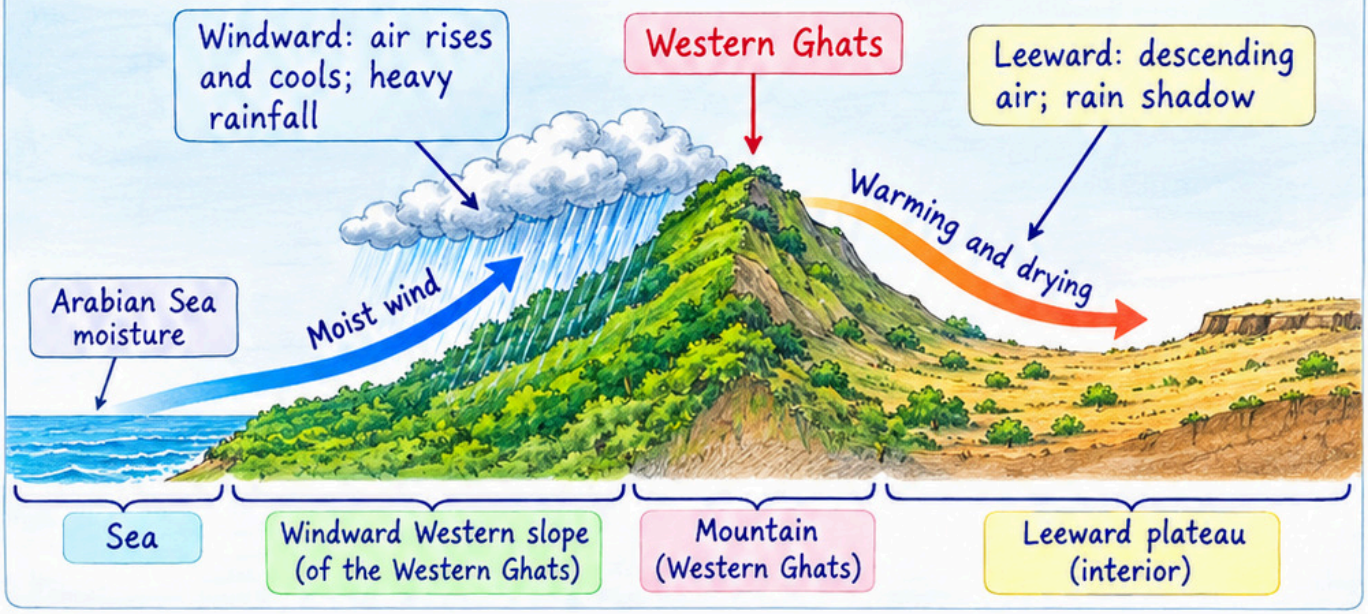
Darjiling:
January temperature about 4°C



Nearly the same latitude; different elevations. These are illustrative climatological values, not current readings.

Temperature generally decreases with height. Altitude, not simply distance north, explains the contrast.

The Western Ghats: relief, wind and rainfall



Windward Western Ghats and hills of Assam receive heavy June–September rain. Interior plateau areas in the rain shadow are relatively drier.

Relief affects temperature, air pressure, wind direction and speed, and the amount and distribution of rainfall.

Three atmospheric controls

1. Pressure and surface winds:

- Winter high pressure develops north of the Himalayas; winds move toward lower pressure over the Indian Ocean.
- Seasonal pressure changes alter wind direction.

2. Upper-air circulation:

- Withdrawal of the westerly jet from over the north Indian plain accompanies the seasonal circulation shift.
- The easterly jet develops near 15°N during the summer monsoon.
- These upper-air changes are associated with monsoon onset; no single factor alone explains it.

westerly jet
WEST ⟶ EAST

easterly jet
WEST ⟵ EAST

3. Western cyclonic disturbances and tropical cyclones:

- Westerly disturbances bring winter rain to northwestern plains and snow to mountains.
- Post-monsoon Bay of Bengal/Andaman Sea depressions and cyclones affect the east coast, including Godavari, Krishna and Kaveri delta regions.

Six general climatic controls:

1 : latitude;
2 : altitude;
3 : pressure and wind system;
4 : distance from sea (continentality);
5 : ocean currents;
6 : relief.

Ocean currents are a general climatic control, not one of the three atmospheric conditions listed above.

Season	Rainfall
Summer monsoon (Jun-Sep) →	Main rainfall
Post-monsoon (Oct-Dec) →	Rainfall on east coast
Winter (Jan-Feb) →	Light rainfall (mainly in northwest)

Four seasons: distinguish description from reporting

Season / Weather	Descriptive (local weather season)	IMD (statistical reporting period)
Cold weather	Mid-November–February	IMD winter: January–February
Hot weather	March–May broadly; northern summer can extend into June before monsoon arrival	IMD pre-monsoon: March–May
Southwest monsoon	June–September	IMD: June–September
Retreating monsoon	October–November	IMD post-monsoon: October–December

A 12-month calendar (by IMD reporting periods)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

= Winter (Jan–Feb) = Pre-monsoon (Mar–May) = Southwest monsoon (Jun–Sep) = Post-monsoon (Oct–Dec)

December: Cold-weather conditions in north India can occur within IMD's post-monsoon reporting period.

Note: Use the stated classification: local weather seasons and statistical reporting periods need not have identical boundaries.

Traditional seasons

Six traditional two-month seasons: Vasanta • Grishma • Varsha • Sharada • Hemanta • Shishira

Four meteorological seasons ≠ six traditional seasons.

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Cold weather: dry winds, important winter rain

Northern cold weather: mid-November–February

- December and January coldest in northern plains.
- Mean daily temperature below 21°C over much of north India.
- Peninsula has no sharply defined cold season.

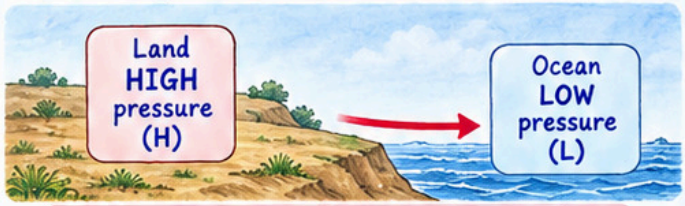


Around 21–22 December:

overhead Sun near Tropic of Capricorn.

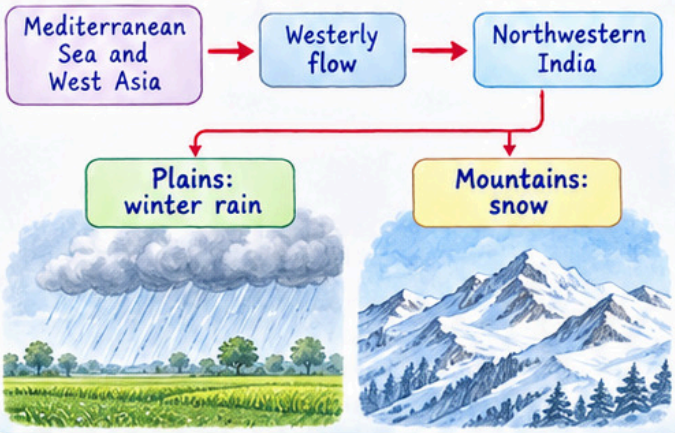


Pressure pattern and dry winds



Northeast trade winds generally move from land to sea, so much of India is dry.

Western disturbances and winter precipitation



Western disturbances bring rain to Punjab, Haryana, Delhi and western Uttar Pradesh. Small amounts are highly valuable for rabi crops; northern-plains winter rain is called **mahawat.**



Coldwave

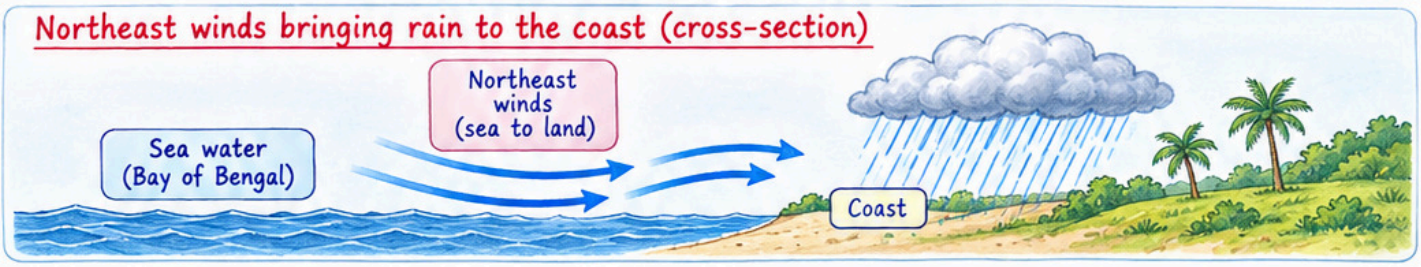
Cold air from the Caspian Sea and Turkmenistan region can bring frost and fog to the northwest around February.



Rain in special areas (exceptions)

- Arunachal Pradesh and Assam receive roughly 25–50 mm in the descriptive winter pattern.
- Along Tamil Nadu, northeast winds cross water and reach the coast from sea to land, bringing rain.
- October–November northeast monsoon rain also affects southern Andhra Pradesh, southeast Karnataka and southeast Kerala.

Northeast winds bringing rain to the coast (cross-section)



Hot weather: rising heat and local storms

Temperatures rise from March as the apparent position of the Sun shifts north toward the Tropic of Cancer.

Illustrative seasonal pattern:

March: Deccan Plateau about 38°C.

April: Gujarat and Madhya Pradesh 38–43°C.

May: northwest around 48°C.

South India generally 26–32°C.

Pressure flow:

Strong land heating → low-pressure trough from Thar Desert toward Patna and Chotanagpur Plateau.



Four local weather phenomena in the hot weather season:

Mango showers

Kerala and coastal Karnataka, toward end of summer; help early mango ripening.



Blossom showers

Kerala and nearby areas; help coffee flowers blossom.



Nor'westers

Evening thunderstorms in Bengal and Assam; Kalbaisakhi/Kaal Baisakhi in West Bengal; Bardoisila in Assam. Kalbaisakhi means calamity of Baisakh. Useful for tea, jute and rice.



Loo

Hot, dry, oppressive winds over northern plains from Punjab to Bihar; often afternoon and sometimes into midnight. Direct exposure can be dangerous.



Dust storms are common in northern India in May. Pre-monsoon rain is local and episodic, not the main southwest monsoon season.

Southwest monsoon: onset, advance and relief

Overview

- June–September is the principal southwest monsoon season.

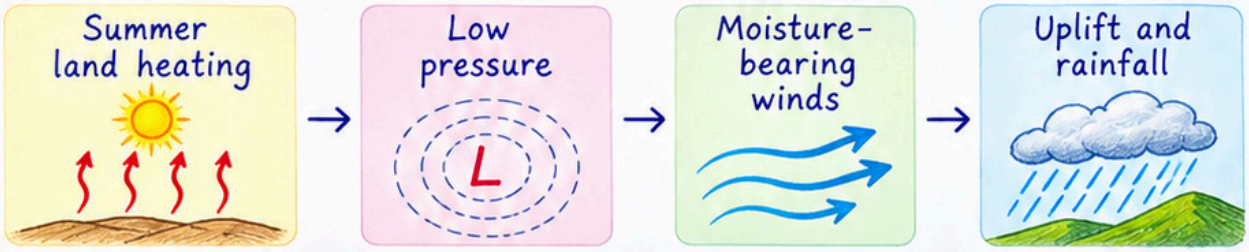
Early season and onset

- By early June, low pressure over the northern plains intensifies.
- Onset can be abrupt: a marked increase in rain is called the monsoon burst.

Onset at Kerala and subsequent advance

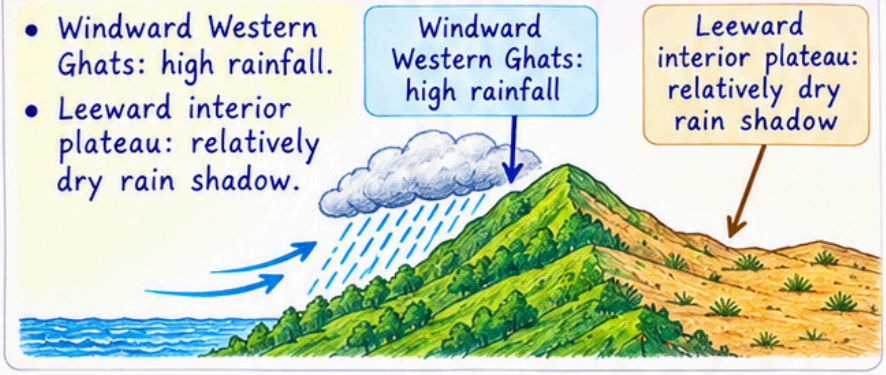
- Kerala's normal onset is around 1 June; the monsoon advances northward subsequently. Do not assume Kerala, Karnataka, Goa and Maharashtra all receive onset on the same day.

Process: how the southwest monsoon brings rain



Relief and rainfall: Western Ghats

- Windward Western Ghats: high rainfall.
- Leeward interior plateau: relatively dry rain shadow.



Data: all-India rainfall

- All-India southwest monsoon rainfall LPA: 87 cm.
- Reference period: 1971–2020.

LPA is a long-period average, not the rainfall achieved in a particular year.

Assam

- Assam's windward hills also receive heavy rain in June–September.

Seasonal clarity

- June may still feel like summer in northern areas before local monsoon arrival; IMD nevertheless includes June in its southwest monsoon reporting season.

Key takeaway

- Onset date varies by place and year. Seasonal total and day of onset are different measures.

Retreating monsoon and October heat

October and November mark the transition from the hot rainy season toward dry winter conditions.

Process:

Apparent southward movement of the Sun
↓
Ganga-plain low-pressure trough shifts south
↓
monsoon withdrawal and clearer skies

Clear skies and rising daytime temperature combine with lingering humidity to produce oppressive October heat.

High temperature + high humidity = October heat



North India becomes relatively dry; October and November are especially rainy in parts of the eastern Peninsula.

Cyclone process:

Bay of Bengal / Andaman Sea depressions and cyclones → eastern coast of the southern Peninsula → heavy coastal rainfall

- Godavari, Krishna and Kaveri delta regions are vulnerable.
- Depressions and cyclones contribute a substantial share of rainfall on the Coromandel coast.

Distinction:

Retreating monsoon: seasonal withdrawal process, usually described for October–November.

Northeast monsoon: rainfall-bearing circulation over the south peninsula.

IMD post-monsoon reporting: October–December.

October heat is not the dry loo of the hot-weather season.

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Northeast monsoon: why the south peninsula matters

The northeast monsoon brings a large share of annual rainfall to the south peninsula, especially the east coast and Tamil Nadu region. The south peninsula matters because a significant part of its annual rainfall is received during October–December.

Season: October–December.

The five meteorological subdivisions:

1. Tamil Nadu, Puducherry and Karaikal
2. Coastal Andhra Pradesh and Yanam
3. Rayalaseema
4. Kerala and Mahe
5. South Interior Karnataka

Climatological shares, not 2026 achieved totals

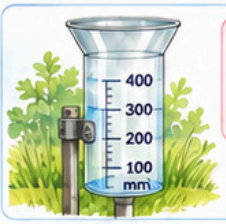
South Peninsular India: about 30% of annual rainfall during October–December.

Tamil Nadu, Puducherry and Karaikal: about 48% of annual rainfall during October–December.

30% – South Peninsular India

48% – Tamil Nadu, Puducherry and Karaikal

Share of annual rainfall received in October–December.



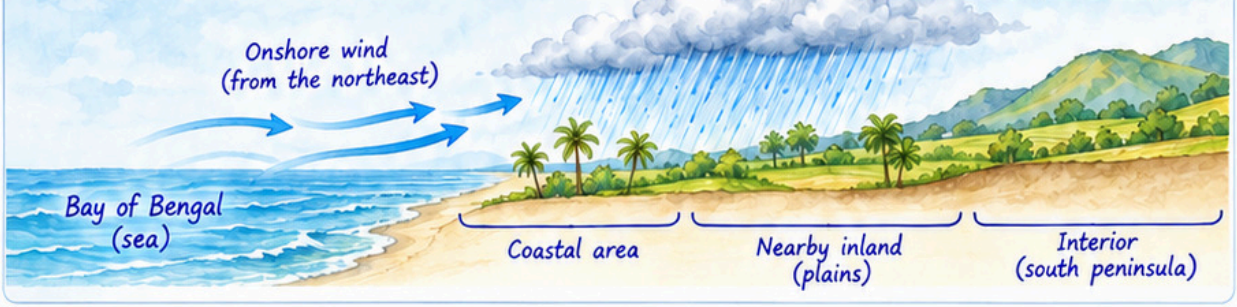
Post-monsoon rainfall LPA over South Peninsular India: about 334.1 mm.

Baseline: 1971–2020.

87cm refers to all-India southwest monsoon rainfall; 334.1 mm refers to south-peninsular post-monsoon rainfall. Different region, season and unit.

How the northeast monsoon brings rain (cross-section)

1. Sea (Bay of Bengal) → 2. Onshore wind (from the northeast) brings moist air towards the coast. → 3. The moist air rises, cools and gives rainfall over the coastal areas and nearby inland.



Andhra Pradesh relevance: both Coastal Andhra Pradesh and Yanam, and Rayalaseema, belong to this five-subdivision region.

IMD outlook, 30 September 2026: climatological background.

India's climate in 2025: measured outcomes

Historical observations for 2025, not a forecast for 2026.

Winter (January-February):

52% of LPA



Pre-monsoon (March-May):

142% of LPA



Southwest monsoon (June-September):

108% of LPA



Post-monsoon (October-December):

111% of LPA



All-India annual rainfall:

Annual rainfall: 110% of LPA.

Rainfall reference period: 1971–2020.

Understanding the numbers:

- 100% of LPA = long-period average.
- 110% of LPA = 10% above that average, not 110% excess.
- 52% of LPA = 48% below that average.

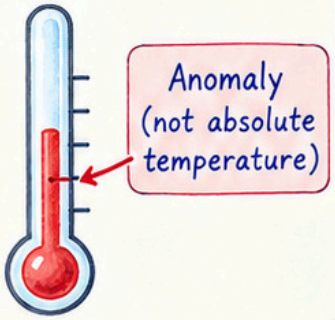
Temperature in 2025:

- 2025 was India's eighth warmest year since nationwide records began in 1901.
- Annual mean land-surface air temperature: +0.28°C above the 1991–2020 average.

Two baselines used in this page:

Rainfall: 1971–2020

Temperature: 1991–2020



Annual rainfall can be above average even when one season is deficient.

IMD annual climate statement, 1 January 2026.

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The annual climate cycle: revise by cause and season

Month / Group	Main feature (cause and season)
January–February	Winter rain in northwest; mountain snow; frost and fog.
March	Heating increases; Deccan Plateau becomes hot.
April	Intense heat in Gujarat and Madhya Pradesh.
May	Northwest heat, loo and dust storms; local pre-monsoon showers.
June	Southwest monsoon onset and northward advance; local arrival dates vary.
July–September	Main monsoon rain; windward wetness and leeward rain shadow.
October–November	Retreat, October heat, eastern-peninsular rain and cyclones.
December	Cold weather in northern India, but still IMD post-monsoon reporting.

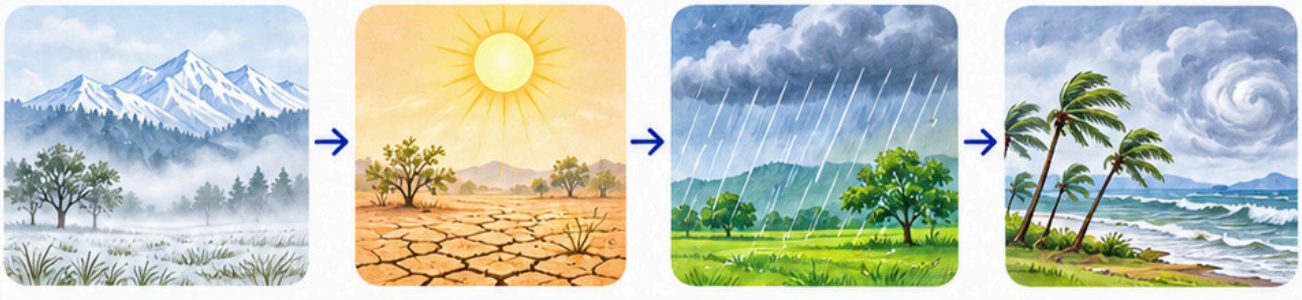
Exam traps

1. Not all India has a distinct cold season: northern winter is pronounced; the Peninsula lacks a sharply defined cold season.
2. Descriptive seasons and IMD periods differ: northern summer may extend into June; pre-monsoon reporting is March–May. Retreat is associated with October–November; post-monsoon reporting is October–December.
3. Darjiling is colder than Agra mainly because of altitude: their latitudes are nearly the same.

India's rainfall varies greatly across space. About 125cm is a broad descriptive annual estimate, not the dated IMD seasonal normal of 87cm.

Always match region, period, season and unit before comparing rainfall figures.

The annual cycle



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Practice question 1

Consider the following statements about the factors that control the climate of India, in the standard geographical framework:

1. The Tropic of Cancer passes through the central part of India in an east-west direction, so the northern part of India lies in the sub-tropical and temperate zone.
2. Mumbai and the Konkan coast are given as examples of areas with extremes of climate, since they are far from the moderating influence of the sea.
3. The three atmospheric conditions in the framework used here are pressure and surface winds, upper air circulation, and ocean currents.
4. The cold winds against which the Himalayas shield the subcontinent originate near the Arctic circle and blow across central and eastern Asia.

Which of the statements given above is/are correct?

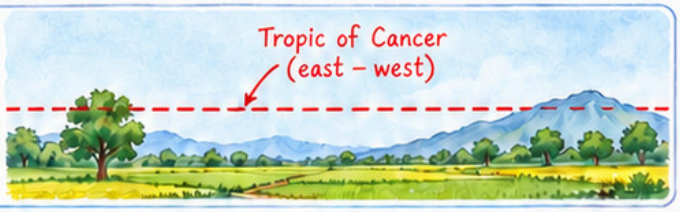
(1) 1 and 3 only
(2) 2 and 4 only
(3) 2 and 3 only
(4) 1 and 4 only

Question 1: correct controls, correct examples

Answer: (4) 1 and 4 only

Explanations (each statement):

1. Correct: Tropic of Cancer crosses central India east-west. South lies in the tropical zone; north experiences subtropical and temperate influences.



2. Incorrect: the statement reverses the coast–interior contrast. Mumbai and Konkan have sea-moderated temperatures. Delhi, Kanpur and Amritsar have greater continental extremes because they are inland.



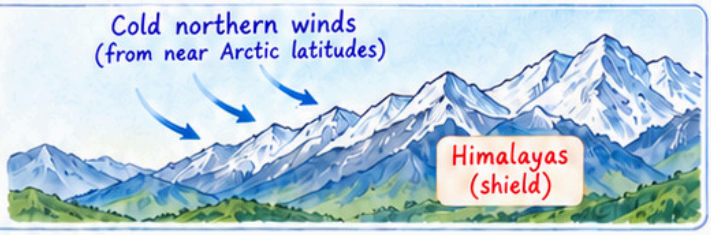
3. Incorrect: the three atmospheric conditions are pressure and surface winds; upper-air circulation; western cyclonic disturbances and tropical cyclones. Ocean currents belong among the six general climatic controls, not this three-part atmospheric grouping.

The three atmospheric conditions:

- Pressure and surface winds.
- Upper-air circulation.
- Western cyclonic disturbances and tropical cyclones.

Ocean currents belong among the six general climatic controls, not here.

4. Correct: the Himalayas shield the subcontinent from cold northern winds crossing Central and Eastern Asia from near Arctic latitudes.



Climatic controls and atmospheric conditions

General controls (six) – include Ocean currents

- Latitude
- Altitude
- Distance from the sea (continentality)
- Relief (mountains)
- Pressure and wind system
- Ocean currents



Atmospheric conditions (three)

- Pressure and surface winds.
- Upper-air circulation.
- Western cyclonic disturbances and tropical cyclones.



Elimination of options:

Option (1): includes false 3; omits true 4.

Option (2): includes false 2; omits true 1.

Option (3): contains false 2 and 3; omits true 1 and 4.

Truth pattern: 1 TRUE, 2 FALSE, 3 FALSE, 4 TRUE

Question 2: match the weather phenomenon.

Consider the following pairs of a weather phenomenon of India and a feature of the phenomenon:

S. No.	Weather phenomenon of India	Feature of the phenomenon
1.	Kalbaisakhi (Nor Westers)	Dreaded evening thunderstorms in Bengal and Assam, useful for tea, jute and rice
2.	Mahawat	Winter rain on the Tamil Nadu coast, brought by the north-east monsoon
3.	Loo	Hot, dry winds of the summer over the northern plains, from Punjab to Bihar
4.	'October heat'	Oppressive weather of high temperature and humidity under clear skies, after the monsoon retreats

How many of the pairs given above are correctly matched?

(1) Only one pair
(2) Only two pairs
(3) Only three pairs
(4) All four pairs

Check the region, season and cause before counting the correct pairs.

Question 2: season, region and cause.

Answer: (3) Only three pairs.

Correct pairs: 1, 3 and 4.

1. Kalbaisakhi — CORRECT.

Nor Westers are dreaded evening thunderstorms in Bengal and Assam. These pre-monsoon storms are useful for tea, jute and rice.



2. Mahawat — INCORRECT.

Mahawat is winter rain in the northern plains associated with western disturbances arriving from the Mediterranaan-West Asian region. Though small in amount, it is important for rabi crops. Tamil Nadu also receives rain in the colder part of the year, but from north-east winds that pick up moisture over the sea; that rain is not called Mahawat.



3. Loo — CORRECT.

These are hot, dry and oppressive summer winds over the northern plains, from Punjab to Bihar. Do not restrict their occurrence to the extreme north-west alone.

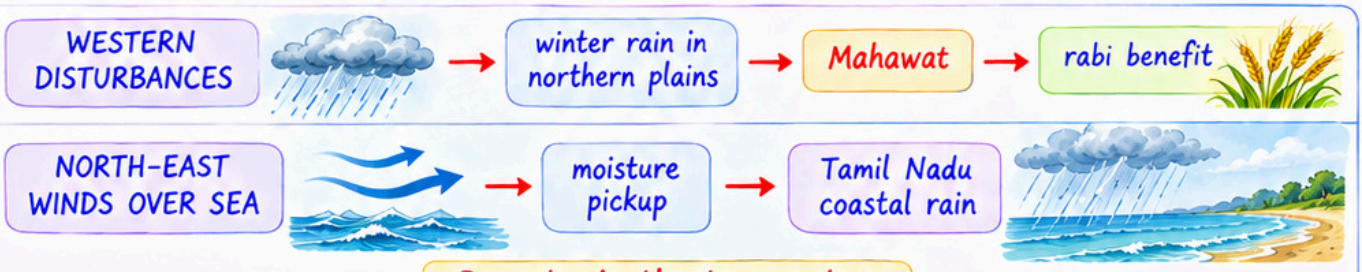


4. October heat — CORRECT.

After monsoon withdrawal, clear skies and rising temperatures combine with residual humidity to produce oppressive weather. This belongs to the retreating-monsoon period, not the April-May hot-weather season.



Functional comparison diagram:



Do not mix the two routes.

Why the other options fail:

(1) Only one pair: rejects pair 2 but wrongly doubts two true pairs, for example by confining Loo to the north-west or shifting October heat to summer.

(2) Only two pairs: rejects pair 2 and another true pair, for example by wrongly treating Kalbaisakhi as a winter storm.

(4) All four pairs: accepts the false Mahawat-Tamil Nadu pairing. Tamil Nadu rain is real; the name and cause in pair 2 are wrong.

Count carefully: 1 TRUE • 2 FALSE • 3 TRUE • 4 TRUE = THREE correct pairs.

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Problem solving: from a gap to a goal

Problem solving is goal-directed thinking. It connects an initial state to a desired goal through mental operations and practical actions.

A problem space contains an initial state, a goal state and permitted moves or operators. Obstacles constrain the route between them. A failure at any stage can block progress.

Problem solving asks:

How can we reach the goal?

Decision making asks:

Which available course of action should we choose? Compare costs and benefits, then monitor the choice.

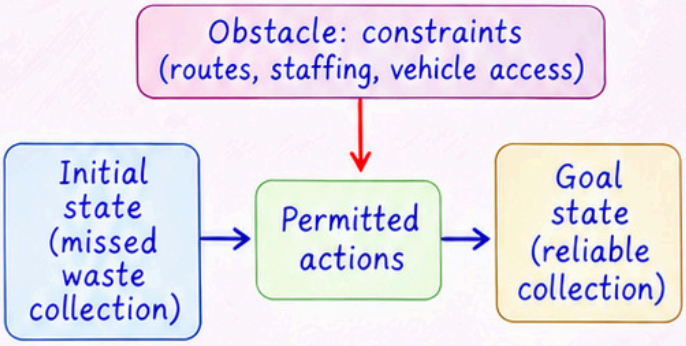
Critical thinking asks:

What does the evidence support? Examine reasons, judge alternatives and correct your own conclusions.

Reasoning gathers and analyses information to reach conclusions. These processes overlap: choosing a remedy is a decision within problem solving; testing its supporting evidence is critical thinking.

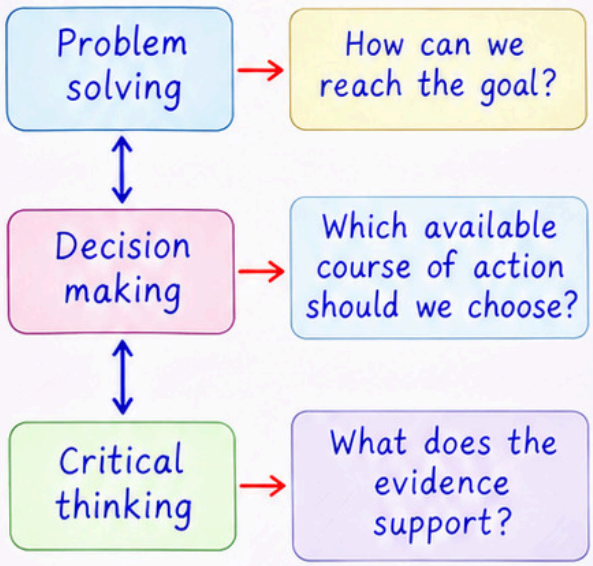
Illustration: missed waste collection

Missed waste collection is the initial state; reliable collection is the goal.



Routes, staffing and vehicle access are constraints, not excuses to skip diagnosis.

The three linked processes



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Seven steps: diagnose before acting

Illustrative case: garbage remains uncollected in Ward 12.

1. Identify the problem: recognise the gap between the present state and the goal. Complaints reveal lanes left unserved for days.

2. Represent the problem: organise facts about where, when and how much. Record missed lanes and days alongside vehicle logs.

3. Plan the solution and set sub-goals: break the goal into manageable targets. Plan a fixed route, daily access to every lane and an end-of-round check.

4. Evaluate possible solutions: compare a second tractor, a revised route and changed timings. Assess cost, staff availability, speed and feasibility.

Four-stage working sequence

1. Identify the problem: recognise the gap between the present state and the goal.
2. Represent the problem: organise facts about where, when and how much.
3. Plan the solution and set sub-goals: break the goal into manageable targets.
4. Evaluate possible solutions: compare options and assess cost, staff availability, speed and feasibility.

Evidence (representation)

lane	missed day	vehicle log
Lane A	Monday	No entry
Lane B	Tuesday	Route not visited
Lane C	Wednesday	Vehicle in other area

Possible remedies (comparison)

Second tractor	Revised route	Changed timings
Additional vehicle to cover unserved lanes.	Modify the route to ensure all lanes are covered.	Adjust the collection timings to improve coverage.

Do not choose a remedy merely because it is familiar. Identification and representation come before selection.

The sequence is a useful working framework, not a rule that real problems always unfold neatly. New evidence may require revisiting an earlier stage.

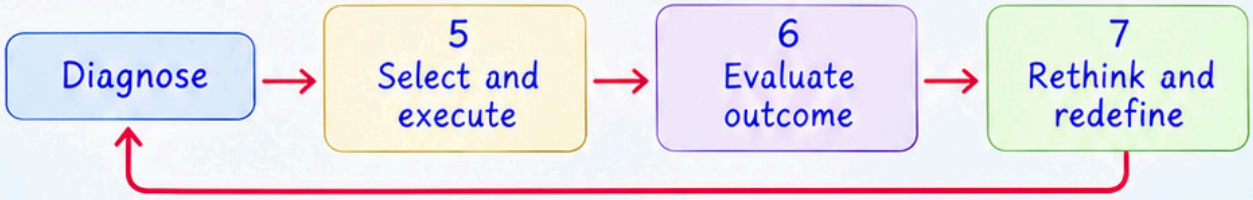
Seven steps: implement, check, rethink

Continue the Ward 12 example.

5. Select one solution and execute it: choose the most suitable remedy and put it into action. Start the revised collection route on Monday.

6. Evaluate the outcome: check whether the intended goal was achieved. After two weeks, compare complaints with the vehicle log.

7. Rethink and redefine the problem and solution: if two lanes remain unserved because the tractor cannot enter them, add a push-cart for those lanes.



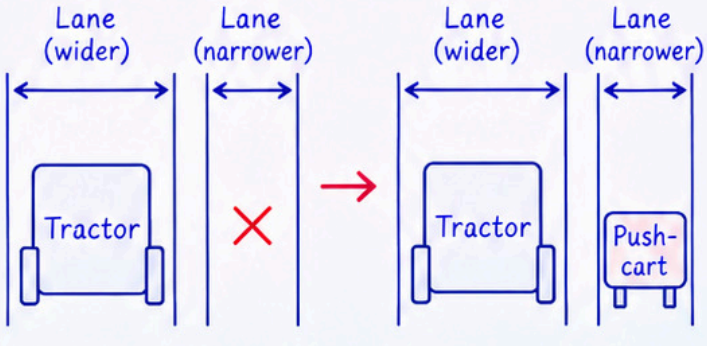
Evaluation before action compares alternatives.
Evaluation after action checks results.
They are different tasks.

BEFORE: compare alternatives

AFTER: measure outcome

Three sequence errors:

- Jumping to a solution before identifying and representing the problem.
- Acting on a plan before defining what must change.
- Selecting a remedy without evaluating feasible alternatives.



A completed activity is not automatically a solved problem. The final test is whether the gap between the present state and the goal has narrowed.

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IDEAL: a compact problem-solving model

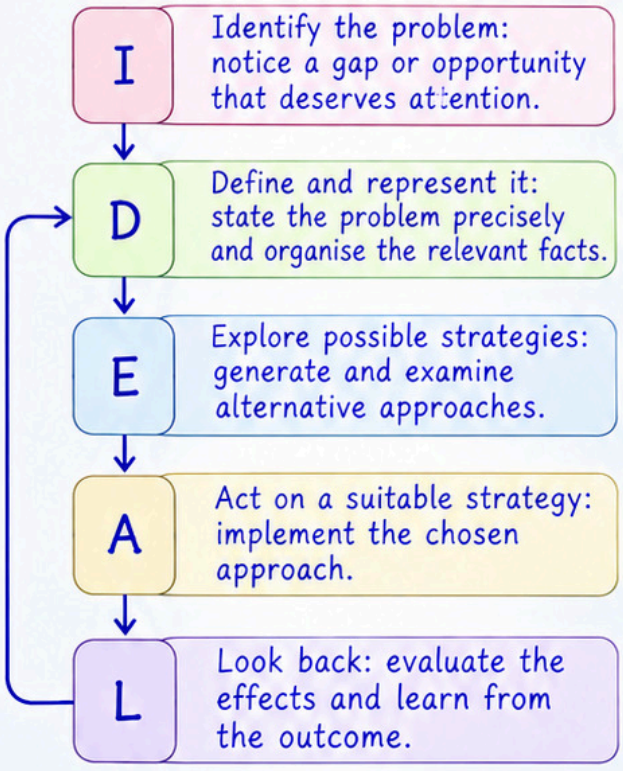
John Bransford and Barry Stein developed the IDEAL model in The IDEAL Problem Solver (1984; second edition 1993).

- **I** — Identify the problem: notice a gap or opportunity that deserves attention.
- **D** — Define and represent it: state the problem precisely and organise the relevant facts.
- **E** — Explore possible strategies: generate and examine alternative approaches.
- **A** — Act on a suitable strategy: implement the chosen approach.
- **L** — Look back: evaluate the effects and learn from the outcome.

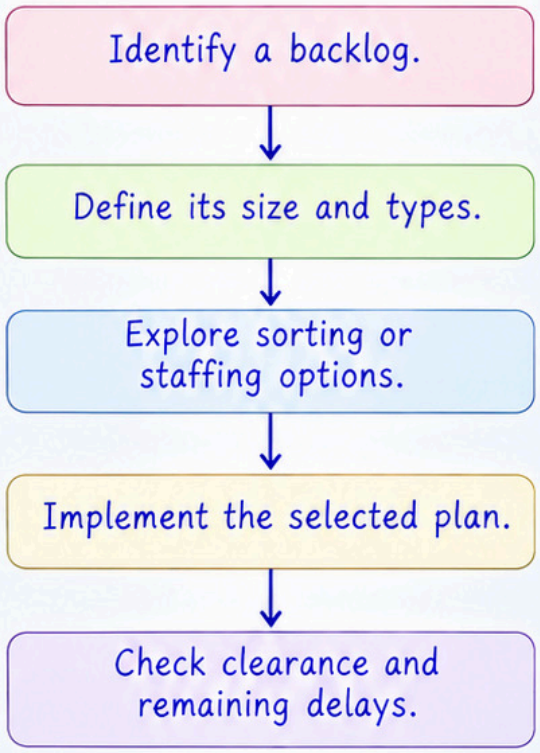
Later formulations emphasise anticipating outcomes before acting and learning during the final review. The order remains I–D–E–A–L.

Do not confuse the five IDEAL components with the seven-step working sequence. Both require diagnosis before action and review after it.

The IDEAL model (with feedback)



An IDEAL illustration: a backlog example



Algorithm or heuristic: certainty versus speed

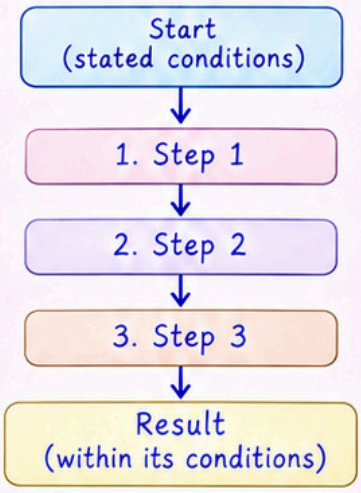
Algorithm: a defined step-by-step procedure. For a suitable problem, correct inputs and faithful execution produce the intended result. Its guarantee does not mean that every problem has an applicable algorithm.

Heuristic: a practical shortcut or general strategy. It can save time and effort but does not guarantee a correct or optimal result.

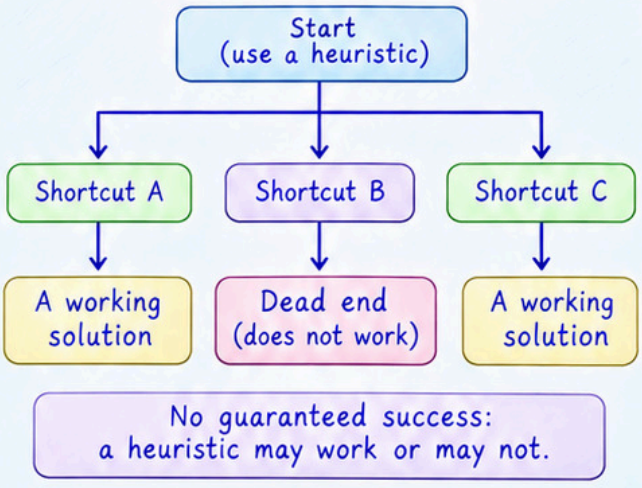
Illustration: follow the specified steps of a software-installation procedure.

People often use heuristics when information is excessive or scarce, time is short, a decision has low stakes, or a familiar shortcut comes to mind.

Algorithm: step-by-step process (under stated conditions)



Heuristic: shortcut search (no guaranteed success)



No guaranteed success: a heuristic may work or may not.

Compare:

Algorithm — precise sequence; dependable within its conditions; may require more time or effort.

Heuristic — flexible guide; quicker search; can overlook better alternatives.

Working backwards and breaking a task into sub-goals are common heuristic approaches.

Trial and error tests different possible solutions until one works; it may be useful without a known procedure but is often inefficient.

Remember: Do not describe a heuristic as guaranteed merely because it worked before.

Means-end analysis and working backwards

Means-end analysis compares the current state with the goal, identifies a difference and chooses a sub-goal or operation that reduces that difference. It was central to Newell and Simon's General Problem Solver.

It suits large tasks that can be broken into smaller targets. As a heuristic, it does not guarantee success; a promising local step may not solve the entire problem.

Illustration: A tahsildar must complete a village land survey in four weeks. Targets are maps in week 1, field checks by week 3 and final records in week 4. Progress is reviewed against the remaining gap.

Working backwards starts from a clearly specified goal and traces the prerequisites needed to reach it. It helps when the destination is clear but the starting move is unclear.

Illustration:

Maps prepared ← Field checks complete ← Final record ready

A clear goal is essential.

Working backwards does not mean the complete solution is already known.

Distinction: means-end analysis repeatedly reduces a current gap; backward reasoning traces prerequisites from the destination.

Means-end analysis (gap reduction):

Top gap (current state vs. goal) → Sub-goal (or operation) that reduces the gap → Smaller gap (reduced difference)

Working backwards (prerequisite tracing):

Backward reasoning (traces prerequisites)

Maps prepared ← Field checks complete ← Final record ready

Forward execution (perform steps in order)

Analogy and trial and error

Analogy transfers useful relationships from a previously solved problem to a new one. Structural similarity matters more than surface resemblance.

Trial and error tries different possible solutions until one works. It can help when no reliable procedure or shortcut is available, but may waste time and resources.

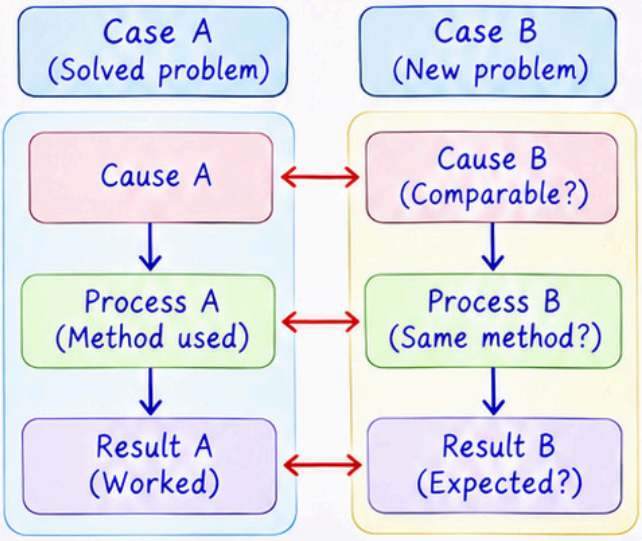
Illustration (Analogy): A Mandal Revenue Officer recalls clearing a pension backlog by sorting files by type and considers the same method for pending applications. She must check whether the new backlog has comparable causes and processing requirements.

Illustration (Trial and error): An authorised technician tests possible causes of a street-light failure under safe procedures. This is not a recommendation to handle live electrical equipment or repeatedly replace fuses without diagnosis.

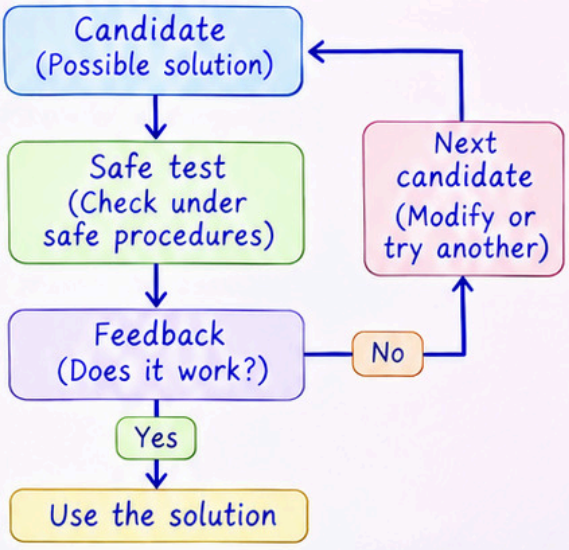
Risk: Two problems may look alike but require different remedies. A neighbouring mandal's successful booster pump is not proof that another hamlet has the same water-supply fault.

Analogy suggests a candidate solution; evidence tests whether it fits.

Analogy: structural matching



Trial and error: solution cycle



Trial and error should be bounded by safety, cost and feedback, not random repetition.

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Mental set versus functional fixedness

Mental set is the tendency to persist with familiar mental operations even when a different approach would work better.

Abraham Luchins's water-jar studies (1942) showed that practice with a longer method could make people continue using it when a simpler solution became available.

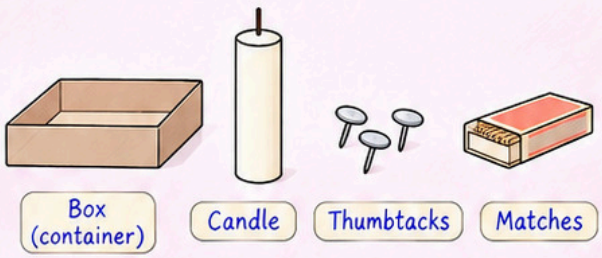
Functional fixedness is a related obstacle: seeing an object only in its usual role prevents noticing another useful function.

Karl Duncker's candle problem (published in English in 1945) asks how to attach a candle to a wall using matches and a box of thumbtacks.

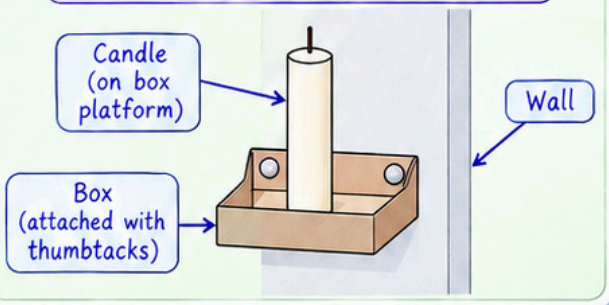
The key is to empty the box, attach it to the wall and use it as a candle platform. The box is not merely a container.

Candle problem: box as a platform

BEFORE: box = container



AFTER: empty box attached to wall supports candle



Distinction:

- **Mental set** — fixed on a familiar method.
- **Functional fixedness** — fixed on a familiar object use.

Method comparison:

- **OLD long route** → A familiar, longer procedure that works but takes more steps.
- **NEW shorter route** → A simpler, more direct procedure that also works.

Using a hardbound book as a hammer shows functional fixedness being overcome, not demonstrated.

The lesson: is to reconsider assumptions, not to abandon every proven method.

Confirmation bias and motivation.

Confirmation bias favours information that supports an existing belief while neglecting tests that could challenge it.

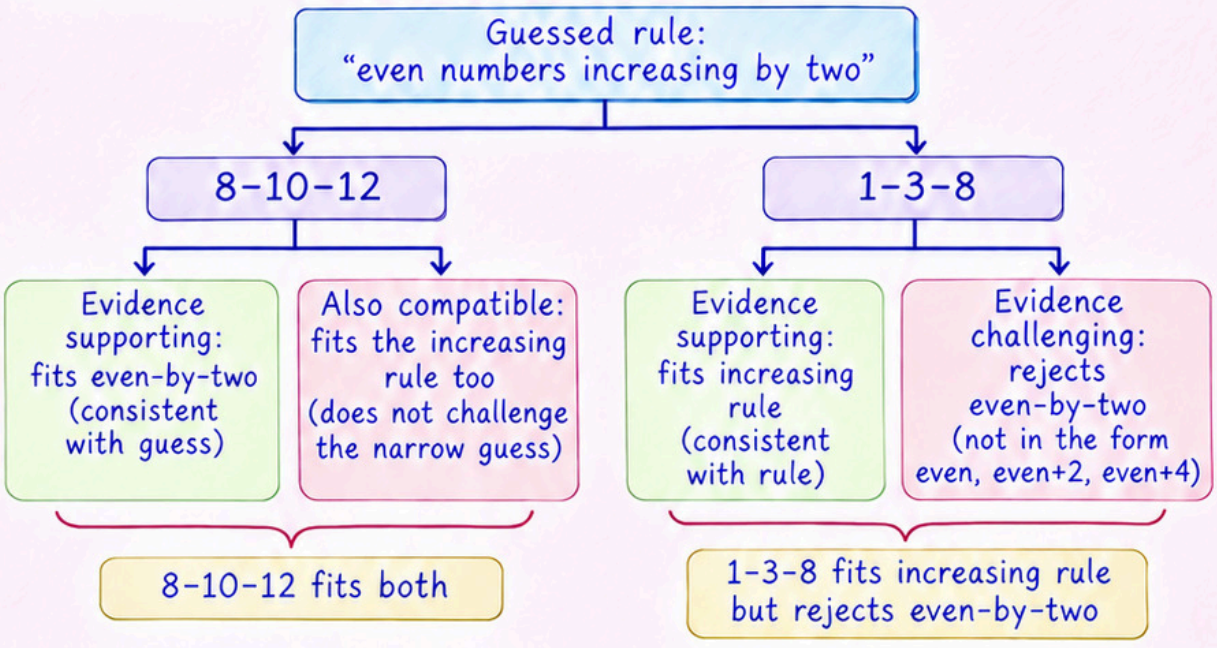
Peter Wason's 2-4-6 task (1960): asked participants to discover the rule by proposing number triples. The actual rule accepted any three numbers in increasing order, not only consecutive even numbers.

If your guess is "even numbers increasing by two", testing 8-10-12 merely fits your guess. Trying 1-3-8 tests a broader possibility and can expose the narrow rule.

Example: an officer already suspects a pump operator and reads only complaints blaming him. That is confirmation bias, not an impartial diagnosis.

A stronger approach seeks relevant contrary evidence and alternative explanations.

Hypothesis test diagram: testing a guessed rule



Lack of motivation also obstructs problem solving. Skills and knowledge may remain unused if a person gives up after an early failure.

Clear sub-goals, feedback and persistence support continued effort, but persistence should not become a rigid mental set.

Remember: test your explanation, not just your ability to find agreement.

5 Whys: follow causes, not assumptions

The 5 Whys repeatedly asks why a problem occurs to move from a visible symptom toward underlying causes. It is associated with the Toyota production system.

Write a clear problem statement. Ask why, record an evidence-based answer and ask why again. Stop when the causal explanation is useful and supported, not automatically at question five.

Illustrative case: vaccination

Children miss sessions → WHY? → Caregivers miss the scheduled day → WHY? → The session clashes with the weekly market → WHY? → The timetable was fixed without consulting the village

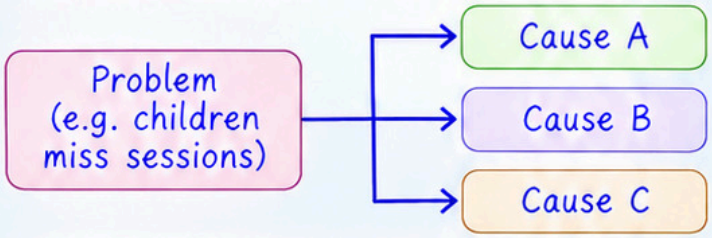
Illustrative case

The actionable issue is scheduling, not simply blaming families.

Five is a guide, not a compulsory count: fewer or more questions may be needed.

Limitations: complex systems rarely have just one cause. A single chain may hide interacting factors or encourage unsupported guesses.

Caution: multiple causes may branch



Each proposed cause needs evidence.

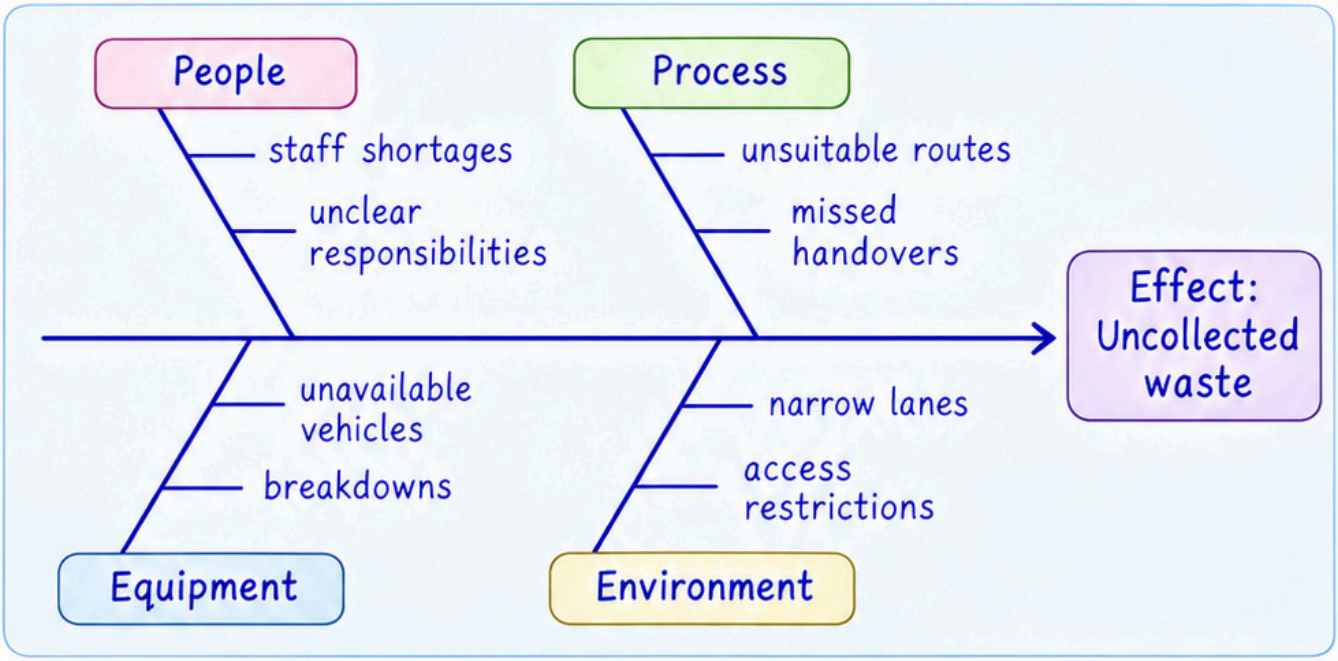
Use records, observations and discussion to check each causal link. Combine several chains or a fishbone diagram when the problem is complex.

This tool helps identify and represent a problem before a remedy is chosen.

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Fishbone: organise possible causes

A fishbone, or cause-and-effect, diagram places a clearly stated problem at its head. Major cause categories form the main branches; possible causes and deeper causes are added beneath them.



Note: These are hypotheses to investigate, not established facts about a real ward.

Guidance: Ask why each possible cause exists and check evidence. The diagram organises causal thinking; it does not prove causation by itself.

Comparison: Compared with a single 5 Whys chain, fishbone analysis keeps several cause categories visible and is useful for complex problems.

Key point: Both tools support early diagnosis and representation, before selecting a solution.

Useful sequence: state the effect → group possible causes → investigate → identify supported causes → compare remedies.

Creativity, groupthink and common traps

Creative thinking is often described through four stages:

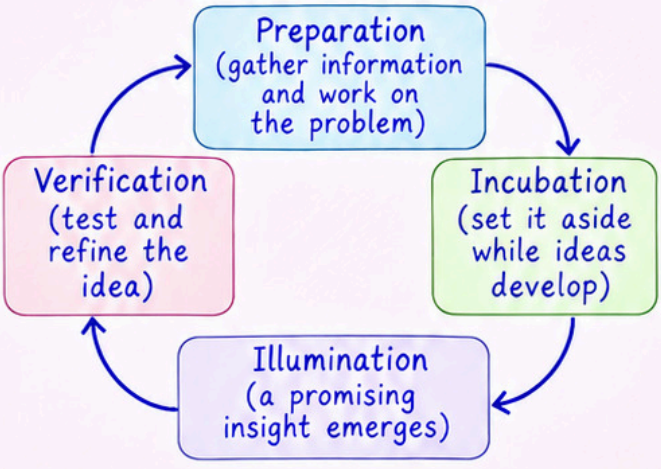
- Preparation — gather information and work on the problem.
- Incubation — set it aside while ideas develop.
- Illumination — a promising insight emerges.
- Verification — test and refine the idea.

Incubation is not one of the seven named steps in the problem-solving sequence used here. Do not mix the two lists.

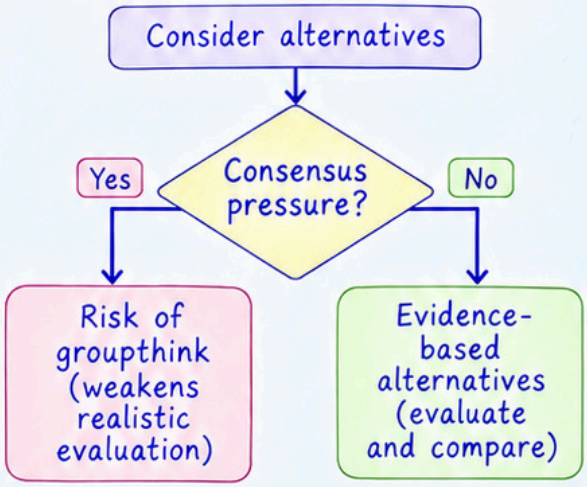
Groupthink, associated with Irving Janis, occurs when pressure for agreement in a cohesive group weakens realistic evaluation of alternatives.

Agreement is not the same as good evidence. Invite alternative views and examine drawbacks before choosing.

Four stages of creative thinking (a continuous loop)



Decision: how to choose



Three quick traps:

1. 5 Whys need not mean exactly five questions.
2. Incubation belongs to the creative-thinking framework.
3. Finding a new use for a familiar object overcomes functional fixedness.

A good process can combine creativity with disciplined evaluation:

Generate possibilities → Compare them → Test the selected approach

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Worked case: a district hospital queue

Illustrative case: patients wait about three hours at a district hospital outpatient department. A week of token records shows the main delay at a single registration counter. It opens at 9 a.m.; patients arrive two hours earlier. Staff discussion links the late opening to shift timing.

Three remedies are available: a second counter, phone registration or an earlier counter shift.

What next? Compare the remedies against cost, staff availability, start-up time and patient reach. Then choose and implement the best-supported option.

Why not immediately copy phone registration from a neighbouring district? Analogy suggests an option but does not establish local suitability.

Why not only collect more complaints? The gap and bottleneck are already represented. Collect more information only if a material uncertainty remains.

Process flow and bottleneck



Comparison of remedies (criteria)

Remedy	Cost	Staff availability	Start-up time	Patient reach
Second counter				
Phone registration				
Earlier counter shift				

After implementation, review waiting times a month later. If delays persist, reconsider the problem and remedy.

Learning point: diagnosing a bottleneck is not the same as evaluating solutions. Compare first; execute second; review the outcome afterward.

MCQ 1: diagnose the water-supply failure

Q1. For three weeks, a Mandal Parishad Development Officer has received repeated complaints that drinking water reaches one tail-end hamlet only once in three days, while the rest of the village gets it daily. He has not yet found out where or why the supply fails. Which one of the following next steps best follows a systematic problem-solving process?

(1) List three remedies, a booster pump, a new borewell and a separate pipeline, compare them on cost and time, and choose the best of them

(2) Adopt the booster pump that ended a similar tail-end shortage in a neighbouring mandal, after confirming by phone that it worked there

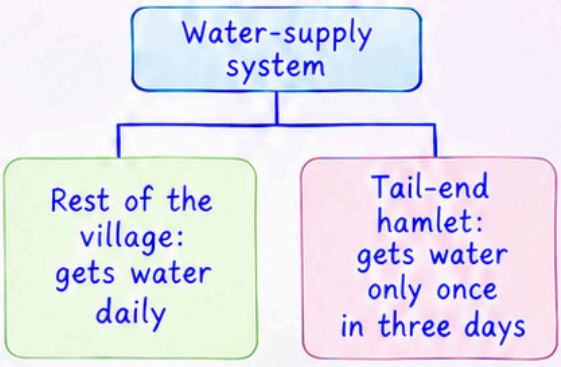
(3) Visit the hamlet, check the pumping schedule, the valve records and the tail-end pressure, and record where and when the supply fails

(4) Study the complaints that name the pump operator, whom he already suspects, and act against him if they bear out that view

Problem-solving sequence

diagnose the problem (find where and why) → develop and compare remedies → choose and implement the best remedy

Situation (functional view)



Problem frame

Initial state: Water reaches the tail-end hamlet only once in three days, while the rest of the village gets it daily.

→

Unknown cause: Where and why the supply fails is not yet found out.

→

Goal: Identify the place and reason for the supply failure and decide the next appropriate action.

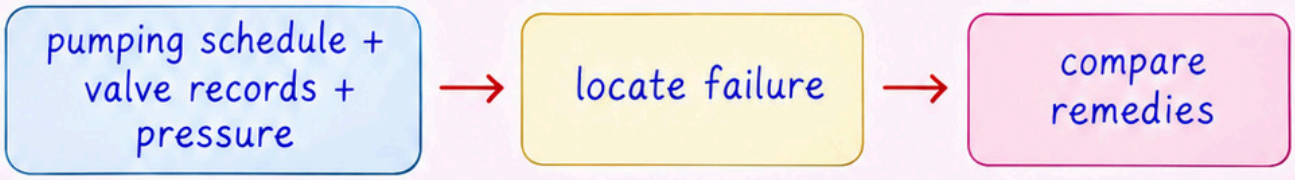
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MCQ 1: why option 3 is correct

Q1. Answer: (3) Visit the hamlet, check the pumping schedule, the valve records and the tail-end pressure, and record where and when the supply fails

Why (3) is correct: the officer does not yet know where or why the supply fails, so the problem has not been identified or represented. The problem-solving sequence begins "Identify the problem" and "Represent the problem". Checking the schedule, the valves and the pressure, and recording where and when the supply fails, does both. Each of the other options picks a remedy or a culprit first.

Evidence-first pathway



Why (1) is wrong: comparing remedies on cost and time looks like step 4, evaluate all solutions, but the cause is not yet known. Choosing a remedy before the problem is identified and represented (steps 1 and 2) is jumping to a solution; steps 1 and 2 come before step 4.

Why (2) is wrong: it is jumping to a solution, borrowed by analogy. An analogy can suggest a solution; it does not test it . The phone call shows only that the pump worked in the other mandal, not that the hamlet's supply fails for the same reason; surface likeness can mislead. It also skips step 4, evaluating all solutions.

Why (4) is wrong: it shows confirmation bias, attending only to the complaints that confirm a belief he already holds; and acting against the operator is acting before defining the problem.

MCQ 2: models, methods and obstacles

Q2. Consider the following statements about problem-solving techniques and obstacles:

1. An algorithm is a step-by-step procedure that is guaranteed to produce a solution if it is followed strictly.

2. Means-end analysis was the method of the General Problem Solver of Bransford and Stein.

3. In the IDEAL model of Bransford and Stein (1984), the step that comes after defining the problem is exploring possible strategies.

4. Luchins's water-jar experiment (1942) is the classic study of functional fixedness.

Which of the statements given above is/are correct?

(1) 1 and 2 only

(2) 1 and 3 only

(3) 3 and 4 only

(4) 2 and 4 only

MCQ 2: separate the names and concepts

Q2. Answer: (2) 1 and 3 only

Statement 1 is correct: A suitable algorithm is a defined step-by-step procedure that gives the intended result when its conditions are met and it is executed correctly.

Statement 2 is wrong: means-end analysis was the method of the General Problem Solver of Newell and Simon. Bransford and Stein are the authors of the IDEAL model, not of the General Problem Solver.

Statement 3 is correct: IDEAL stands for Identify, Define, Explore, Act and Look; "Explore possible strategies" comes after "Define and represent the problem".

Statement 4 is wrong: Luchins's water-jar problems (1942) are the classic study of mental set (Einstellung), the habit of repeating a method already tried. The classic study of functional fixedness is Duncker's candle problem (1945).

Named association diagram

Newell & Simon	→	General Problem Solver / means-end
Bransford & Stein	→	IDEAL
Luchins	→	mental set
Duncker	→	functional fixedness

Why the other options are wrong:

(1) includes statement 2 and leaves out statement 3; (3) includes statement 4 and leaves out statement 1; (4) includes statements 2 and 4, both wrong, and leaves out statements 1 and 3.

Pipes and cisterns: think in rates

A cistern is a tank. Filling the entire tank is the whole work.

Key ideas:

- Inlet: fills, positive rate.
- Outlet: drains, negative rate.
- Leak: unintended outlet, also negative.
- Assume each pipe has a constant rate, whether alone or together.

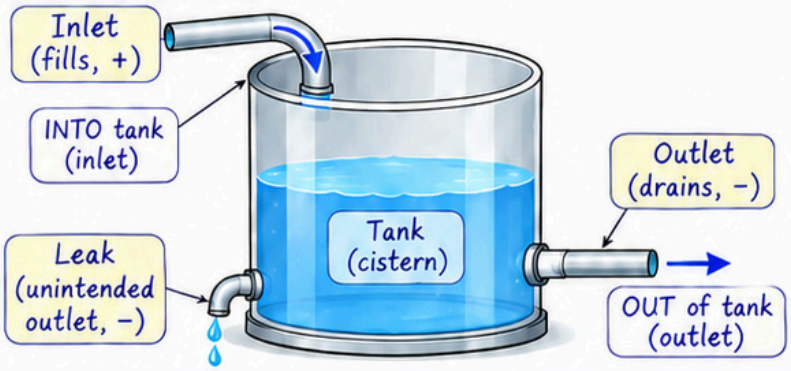
Rates of individual pipes

- An inlet fills in a hours: $+\frac{1}{a}$ tank per hour.
- An outlet empties in b hours: $-\frac{1}{b}$ tank per hour.

Net rate

NET RATE = sum of inlet rates − sum of outlet rates.

A tank with pipes



Rate balance (example form)

One inlet and one outlet:

$$\text{Net rate} = \frac{1}{a} - \frac{1}{b}.$$

Sign of the net rate and what happens

Positive net rate (> 0): an empty tank fills.



Zero net rate (= 0): water level does not change.



Negative net rate (< 0): an empty tank never fills; a full tank empties.



Time to fill, empty or change

$$\text{Time} = \frac{\text{quantity remaining}}{\text{net rate in the required direction.}}$$

- Use consistent units: hours with hourly rates, minutes with minute rates.

Efficiency

Efficiency = units per unit time.

Total work

Total work = capacity.

Identical filling pipes

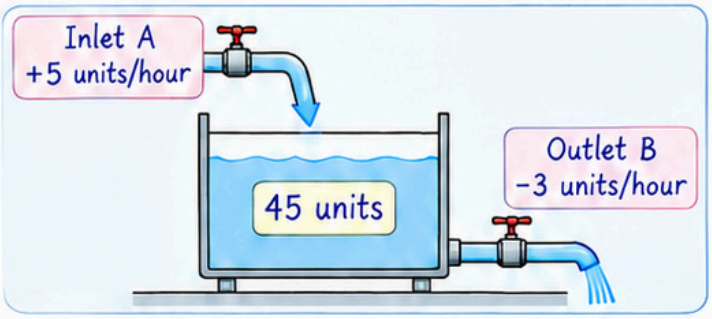
- Identical filling pipes: number of pipes × time = constant.
- More identical pipes need less time for the same tank.

Add or subtract RATES, never the filling times.

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One tank, two equivalent methods

Example: inlet A fills an empty tank in 9 hours, and outlet B empties the full tank in 15 hours. Both are opened together on the empty tank.



Step	Rate method (fraction method)	LCM (capacity) method
Total work	The whole tank = 1	Capacity = the LCM of 9 and 15 = 45 units
Inlet A	$+\frac{1}{9}$ of the tank an hour	$45 \div 9 = +5$ units an hour
Outlet B	$-\frac{1}{15}$ of the tank an hour (minus: it empties)	$-(45 \div 15) = -3$ units an hour
Net rate	$\frac{1}{9} - \frac{1}{15} = \frac{5}{45} - \frac{3}{45} = \frac{2}{45}$	$5 - 3 = 2$ units an hour
Time to fill	$1 \div \frac{2}{45} = \frac{45}{2} = 22\frac{1}{2}$ hours	$45 \div 2 = 22\frac{1}{2}$ hours

- The two columns are the same arithmetic: 45 is the common denominator the rate method needs, and the LCM method takes it at the start. The answer is 22 hours 30 minutes.
- The LCM method is the standard aptitude method. The steps are: find the LCM of the given times, take it as the total work in units, and take efficiency = total work ÷ time. For a tank, the only change is the sign of an outlet.
- Sense check. With an outlet open, the tank takes longer than the inlet alone (9 hours). The answer must also come out positive; if it does not, the outlet is the faster pipe.

Rate method (fraction method)

$$\text{Net rate} = \frac{1}{9} - \frac{1}{15} = \frac{5}{45} - \frac{3}{45} = \frac{2}{45} \text{ of the tank an hour}$$

$$\text{Time} = 1 \div \frac{2}{45} = \frac{45}{2} = 22\frac{1}{2} \text{ hours}$$

LCM (capacity) method

Capacity = LCM(9, 15) = 45 units

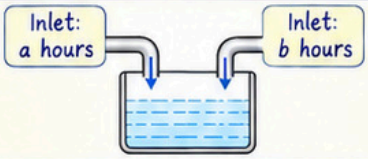
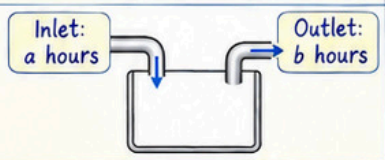
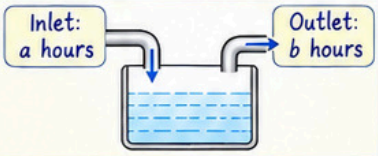
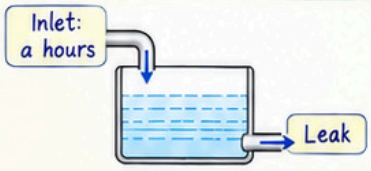
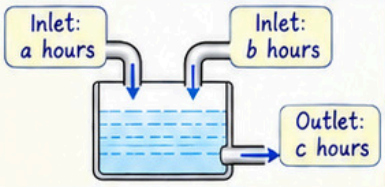
Rate of A = $45 \div 9 = +5$ units an hour

Rate of B = $-(45 \div 15) = -3$ units an hour

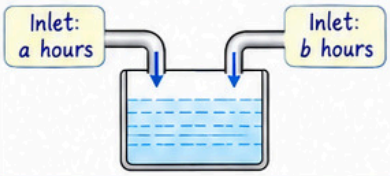
Net rate = $5 - 3 = 2$ units an hour

Time = $45 \div 2 = 22\frac{1}{2}$ hours

Formulas: signs decide the result

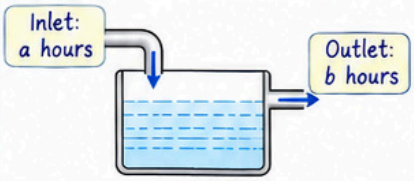
Situation	Result	Why, in one line
Two inlets, a hours and b hours 	Together: $\frac{ab}{a+b}$ hours	Rates add: $\frac{1}{a}+\frac{1}{b}=\frac{a+b}{ab}$, and the time is 1 divided by the rate
Inlet a hours, outlet b hours, b greater than a, tank empty 	Fills in $\frac{ab}{b-a}$ hours	Rates subtract: $\frac{1}{a}-\frac{1}{b}=\frac{b-a}{ab}$
Inlet a hours, outlet b hours, b less than a 	An empty tank never fills; a full tank empties in $\frac{ab}{a-b}$ hours	The outlet is faster, so the net rate $\frac{1}{b}-\frac{1}{a}$ is emptying
A pipe fills in a hours alone, but takes t hours longer because of a leak 	The leak alone empties the full tank in $\frac{a(a+t)}{t}$ hours	Leak's rate $=\frac{1}{a}-\frac{1}{a+t}=\frac{t}{a(a+t)}$
Two inlets (a and b hours) and an outlet (c hours) 	$\frac{1}{\frac{1}{a}+\frac{1}{b}-\frac{1}{c}}$ hours, when the net filling rate is positive	Add the inlets, subtract the outlet

Compare: two inlets



Both add.
Rate: $\frac{1}{a}+\frac{1}{b}$.
Time: $\frac{ab}{a+b}$ hours.

Compare: inlet/outlet



Signs differ.
Rate: $\frac{1}{a}-\frac{1}{b}$.
Time: $\frac{ab}{b-a}$ hours (if $b > a$).

Formula cards (with conditions)

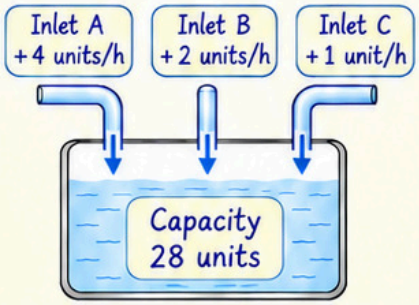
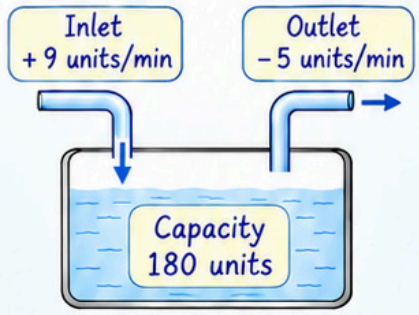
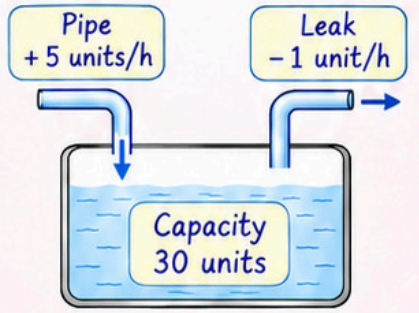
$\frac{ab}{a+b}$ hours	Two inlets of a hours and b hours (both add).
$\frac{ab}{b-a}$ hours	Inlet a hours, outlet b hours, b greater than a (fills).
$\frac{ab}{a-b}$ hours	Inlet a hours, outlet b hours, b less than a (a full tank empties).

Examples

- Two inlets of 14 hours and 35 hours fill the tank together in $14 \times 35 \div 49 = 10$ hours.
- The inlet and outlet of 2.2: $9 \times 15 \div 6 = 22\frac{1}{2}$ hours, as before.
- A pipe fills a tank in 4 hours, but a leak makes it take 1 hour longer: the leak alone empties the full tank in $4 \times 5 \div 1 = 20$ hours. Check: $\frac{1}{4}-\frac{1}{5}=\frac{1}{20}$.
- A full tank has an outlet that empties it in 6 hours and an inlet that fills it in 10 hours. With both open it empties in $6 \times 10 \div 4 = 15$ hours.
- If b is the time taken with the leak, then $b = a + t$, so the same result can also be written $\frac{ab}{b-a}$.
- For three or more pipes, the LCM method is quicker and safer than any formula.

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Three basic worked cases

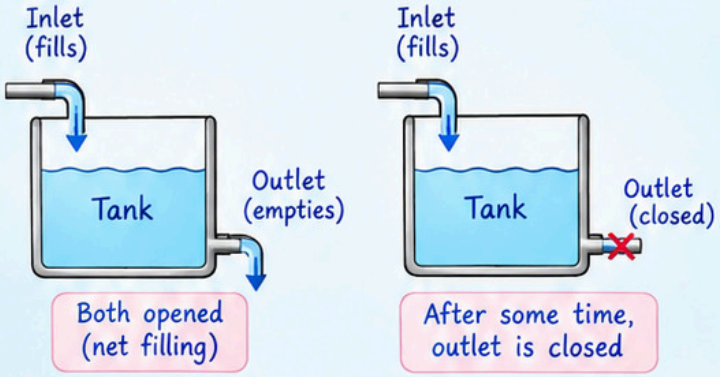
Type	Example	Working (LCM method)	Answer
Inlets together	Three inlets fill a tank in 7, 14 and 28 hours. 	Capacity 28 units. Rates: 7 hours → 28 ÷ 7 = 4 units/h 14 hours → 28 ÷ 14 = 2 units/h 28 hours → 28 ÷ 28 = 1 unit/h Total rate: 4 + 2 + 1 = 7 units an hour.	28 ÷ 7 = 4 hours.
Inlet and outlet	An inlet fills in 20 minutes and an outlet empties in 36 minutes; both are opened on the empty tank. 	Capacity 180 units. Rates: 20 minutes → 180 ÷ 20 = 9 units/min 36 minutes → 180 ÷ 36 = 5 units/min (the outlet, so −5 units/min) Net rate: 9 − 5 = 4 units a minute.	180 ÷ 4 = 45 minutes.
Leak	A pipe fills a tank in 6 hours; with a leak it takes $7\frac{1}{2}$ hours. How long does the leak alone take to empty the full tank? 	Capacity 30 units. The pipe alone: 30 ÷ 6 = 5 units/h. With the leak: $30 \div 7\frac{1}{2} = 30 \div \frac{15}{2} = 4$ units/h. So the leak takes away: 5 − 4 = 1 unit/h.	30 hours.

A pipe closes; another takes turns

Key idea

- Work by a pipe = rate × time open.
- First find the filled quantity; divide only what remains by the new rate.
- Distinguish extra time from the time since the start.
- For alternate hours, count whole rounds only until the next inlet interval can finish the tank.
- Treat the final interval separately.

Tank diagrams

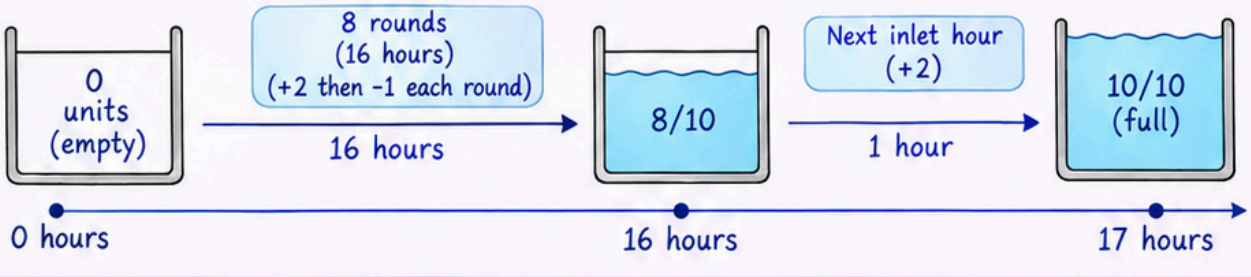


Type	Example	Working (LCM method)	Answer
A pipe closed after some time	An inlet fills in 6 hours and an outlet empties in 9 hours; both are opened on the empty tank, and the outlet is closed after 9 hours.	Capacity 18 units; net 3 − 2 = 1 unit an hour, so 9 units in 9 hours; the other 9 units at 3 units an hour take 3 hours.	Full 9 + 3 = 12 hours from the start.
Alternate hours	An inlet fills in 5 hours and an outlet empties in 10 hours; they are opened by turns for one hour each, the inlet first.	Capacity 10 units; +2 then −1, so 1 unit in each 2-hour round; after 8 rounds (16 hours) the tank holds 8 units, and the next inlet hour adds 2.	Full at 17 hours, not 20.

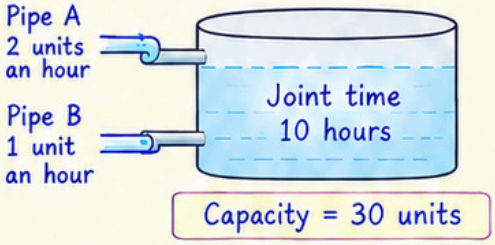
Timeline: a pipe closed after some time (6 hours and 9 hours)



Timeline: alternate hours (5 hours and 10 hours)



Efficiencies and the six traps

Type	Example	Working (LCM method)	Answer
Pipes of different efficiencies	Pipe A fills twice as fast as pipe B; together they fill the tank in 10 hours.	Rates 2 and 1, so 3 units an hour; capacity $3 \times 10 = 30$ units. 	A alone 15 hours; B alone 30 hours.

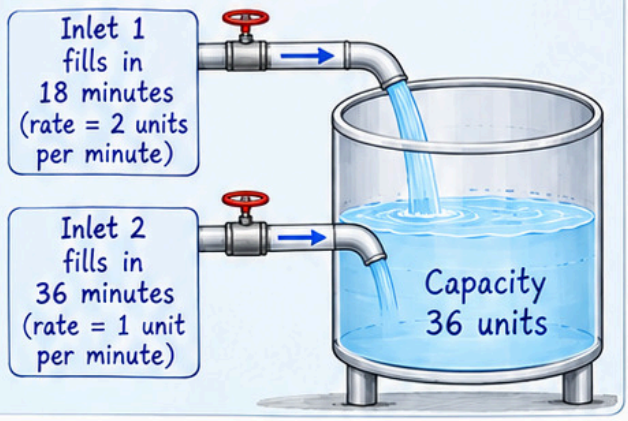
Remember the negative sign for every outlet.

Trap	What it looks like	The right way
1. Times added in place of rates	Inlets of 14 hours and 35 hours "take 49 hours".	Rates add: 10 hours.
2. Outlet counted as filling	Inlet 9 hours, outlet 15 hours: $5 + 3 = 8$ units an hour.	$5 - 3 = 2$ units an hour.
3. The net rate given as the answer	"2 units an hour", written as 2 hours.	Time = capacity ÷ net rate = $45 \div 2$ hours.
4. Work already done forgotten	After a pipe is closed, the whole capacity divided by the new rate.	Divide only what is left.
5. Whole rounds counted to the end	Alternate hours: 10 rounds of 2 hours = 20 hours.	The tank is full in the 17th hour.
6. The extra time read as the leak's time	A leak that adds $1\frac{1}{2}$ hours "empties the tank in $1\frac{1}{2}$ hours".	For an inlet filling in 6 hours, a leak delays filling to $7\frac{1}{2}$ hours. The leak alone takes 30 hours.

Practice drill 1-2

1. Two inlets. Two pipes fill a tank in 18 minutes and 36 minutes. How long do they take together?

Tank and inlet diagram



Solution

Capacity = 36 units.

Rates: 2 units per minute and 1 unit per minute.

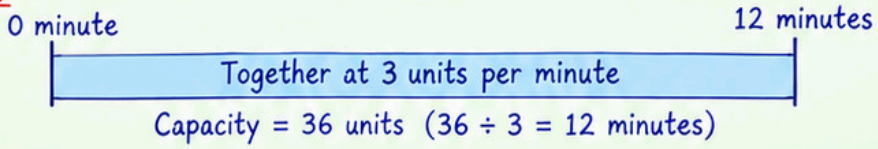
Together: 2 + 1 = 3 units per minute.

Time taken = 36 ÷ 3 = 12 minutes.

Formula:

$$18 \times 36 \div 54 = 12 \text{ minutes.}$$

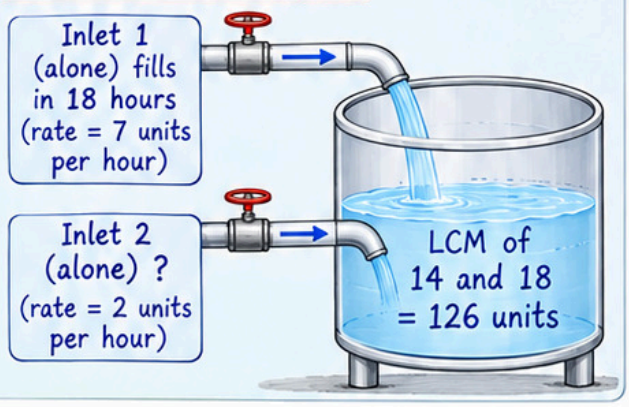
Timeline (filling)



Capacity = 36 units (36 ÷ 3 = 12 minutes)

2. One pipe from the pair. Two inlets together fill a tank in 14 hours, and the first alone in 18 hours. How long does the second take alone?

Tank and inlet diagram



Solution

The LCM of 14 and 18 is 126 units.

Together: 126 ÷ 14 = 9 units per hour.

First (alone): 126 ÷ 18 = 7 units per hour.

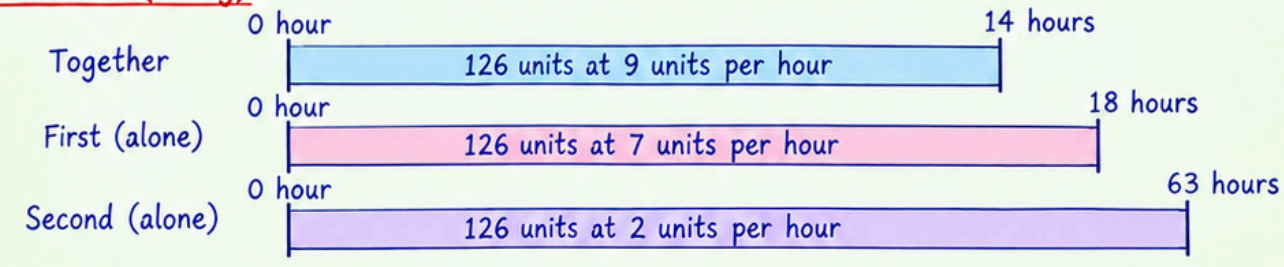
Second: 9 − 7 = 2 units per hour.

Time taken by the second = 126 ÷ 2 = 63 hours.

Formula:

$$18 \times 14 \div (18 - 14) = 63 \text{ hours.}$$

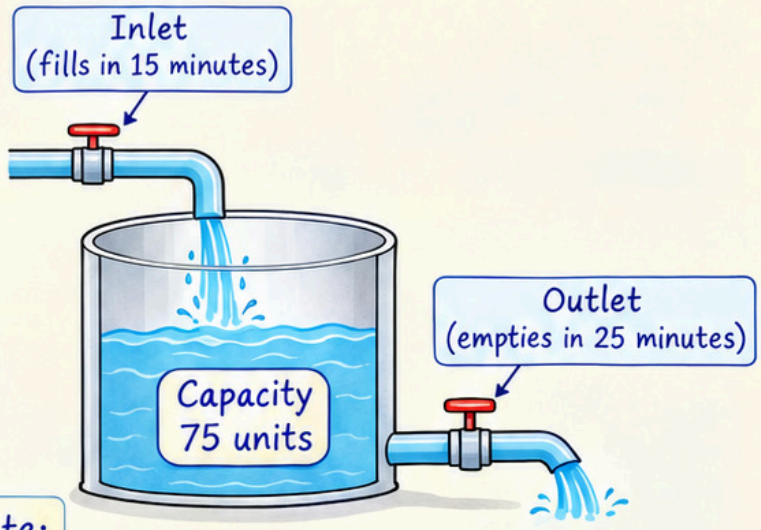
Timelines (filling)



Practice drill 3-4

3. Inlet and outlet.

An inlet fills a tank in 15 minutes and an outlet empties it in 25 minutes. Both are opened on the empty tank.



Capacity 75 units;

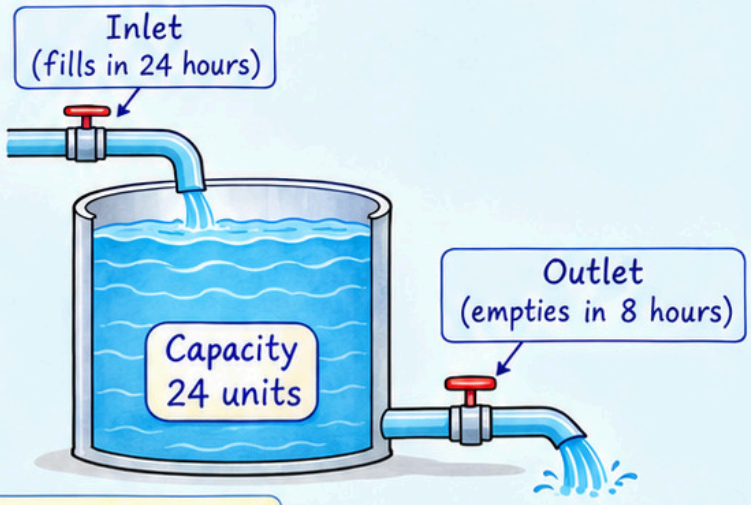
net $5 - 3 = 2$ units a minute;

$75 \div 2 = 37\frac{1}{2}$ minutes, that is, 37 minutes 30 seconds.

Formula: $15 \times 25 \div 10 = 37\frac{1}{2}$ minutes.

4. Emptying with the inlet on.

A full tank has an outlet that empties it in 8 hours and an inlet that fills it in 24 hours. Both are opened.



Capacity 24 units;

net $3 - 1 = 2$ units an hour going out;

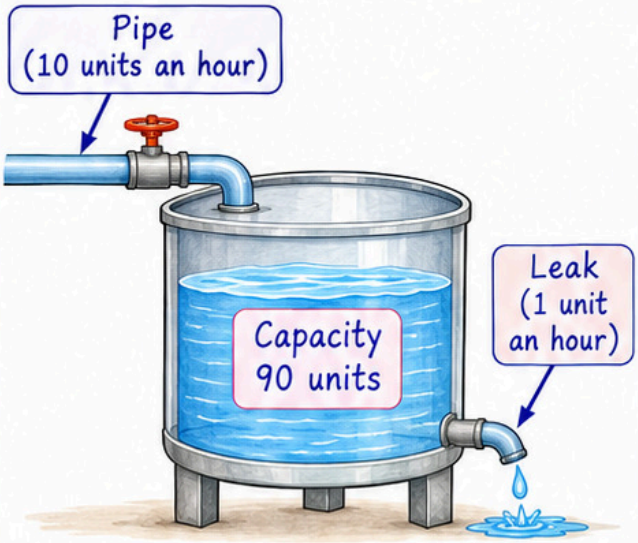
$24 \div 2 = 12$ hours to empty.

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Practice drill 5-6

5. A leak.

A pipe fills a tank in 9 hours, but because of a leak it takes 1 hour longer. How long does the leak alone take to empty the full tank?



Solution:

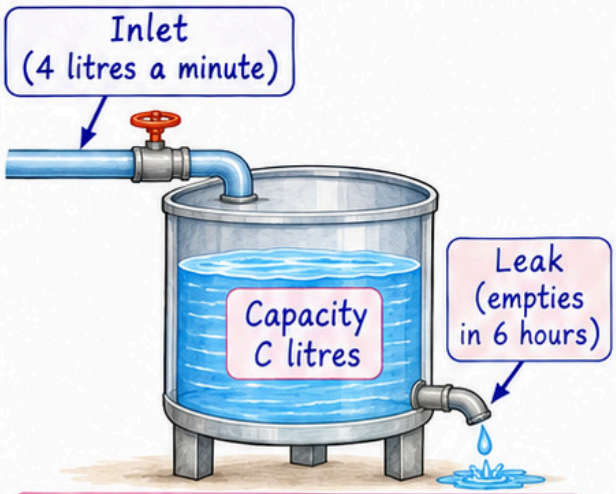
Capacity 90 units (the LCM of 9 and 10).

The pipe does 10 units an hour; with the leak only 9; so the leak takes away 1 unit an hour: 90 hours.

Formula: $9 \times 10 \div 1 = 90$ hours.

6. Capacity in litres.

A leak can empty a full tank in 6 hours. An inlet that lets in 4 litres a minute is opened, and the full tank now empties in 10 hours. What is the capacity?



Phases:
Leak alone: empties in 6 hours.
With inlet: empties in 10 hours.

Solution:

The inlet adds $4 \times 60 = 240$ litres an hour.

If the capacity is C litres, the leak takes out $\frac{C}{6}$ an hour, and $\frac{C}{6} - 240 = \frac{C}{10}$.

So $\frac{C}{15} = 240$ and $C = 3{,}600$ litres.

Check: the leak takes out 600 litres an hour;
$600 - 240 = 360$;
$3{,}600 \div 360 = 10$ hours.

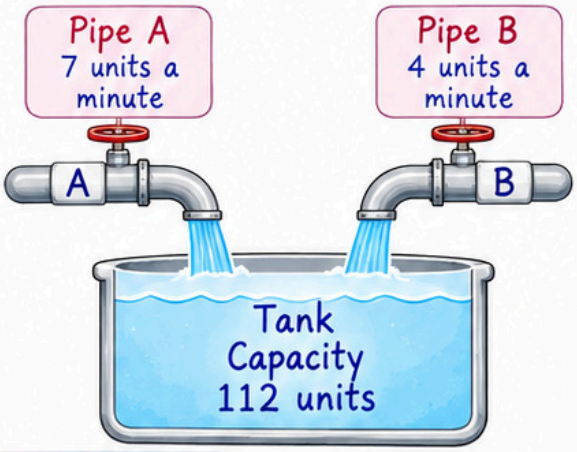
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Practice drill 7–8

7. A pipe opened later.

Pipe A fills a tank in 16 minutes and pipe B in 28 minutes. A is opened alone; B is opened 5 minutes later. When is the tank full?

Capacity 112 units; A does 7 and B 4 units a minute.



Working:

- In the first 5 minutes A fills 35 units.
- The other 77 units at 11 units a minute take 7 minutes.

Equations:

112 − 35 = 77 units.
7 + 4 = 11 units a minute.
77 ÷ 11 = 7 minutes.

Answer: Full 5 + 7 = 12 minutes after A was opened.

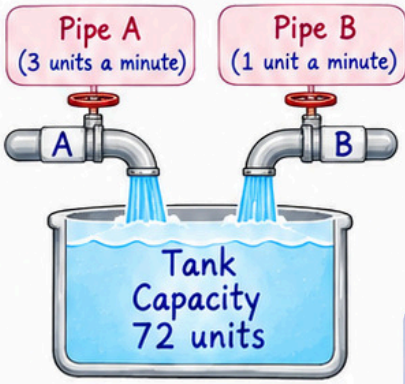
Phase diagram:

	A only (7 units a minute)	A and B together (11 units a minute)
Tank filling:		
Time:	← 5 minutes →	← 7 minutes →

Total time: 5 + 7 = 12 minutes.

8. Different efficiencies.

Pipe A fills a tank three times as fast as pipe B. Together they fill it in 18 minutes. How long does B take alone?



Working:

- Rates 3 and 1, so 4 units a minute; capacity 4 × 18 = 72 units.
- B alone takes 72 ÷ 1 = 72 minutes (A alone 24 minutes).
- Check: 24 × 72 ÷ 96 = 18 minutes.

Rates and time diagram:

Pipe	Rate (units a minute)	Time to fill alone
A	3	24 minutes
B	1	72 minutes
A and B	4	18 minutes

Equations:

4 × 18 = 72 units.
72 ÷ 1 = 72 minutes.
Check: 24 × 72 ÷ 96 = 18 minutes.

Answer:
B alone takes 72 minutes (A alone 24 minutes).

Three checks that prevent wrong answers

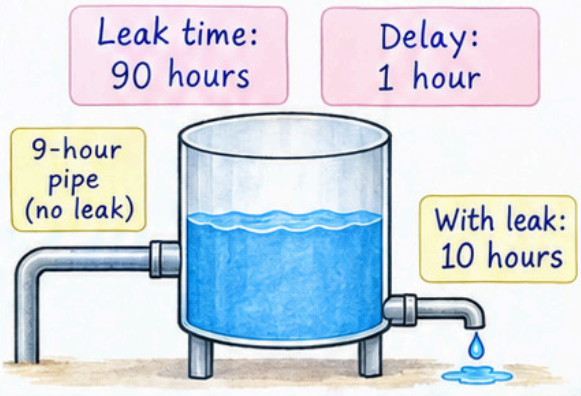
The three checks below help avoid common mistakes in pipe and tank questions. They show how to find the leak's time, how to handle alternate hours correctly, and how to decide which way the level moves.

The three checks:

1. The extra time is not the leak's time.
2. In alternate hours, the tank can be full before a round ends.
3. Which pipe is faster decides which way the level moves.

1. The extra time is not the leak's time.

If a leak makes a 9-hour pipe take 10 hours, the leak alone does not empty the tank in 1 hour. Its rate is the difference of the two rates, $\frac{1}{9} - \frac{1}{10} = \frac{1}{90}$, so it takes 90 hours: a slow leak makes only a small delay.



2. In alternate hours, the tank can be full before a round ends.

With an inlet that fills in 5 hours and an outlet that empties in 10 hours working by turns, the net gain is 1 unit in 2 hours out of 10 units, but the answer is not $10 \times 2 = 20$ hours. After 16 hours the tank holds 8 units, and the inlet's next hour fills the last 2 units, so it is full at 17 hours.

Alternate hours: full at 17 hours, not 20 hours

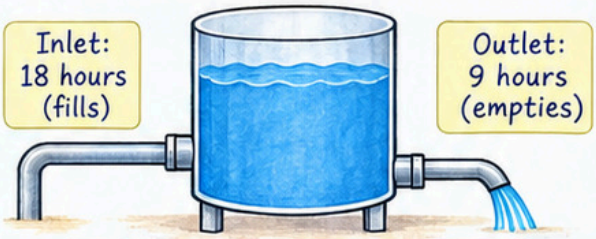
Time (hours)	Tank (units)
0	0
2	1
4	2
6	3
8	4
10	5
12	6
14	7
16	8
17	10



3. Which pipe is faster decides which way the level moves.

If the outlet empties faster than the inlet fills, an empty tank never fills, whatever the time. A full tank then empties at the outlet's rate minus the inlet's rate: an outlet of 9 hours against an inlet of 18 hours empties it in $9 \times 18 \div 9 = 18$ hours, not 9 hours.

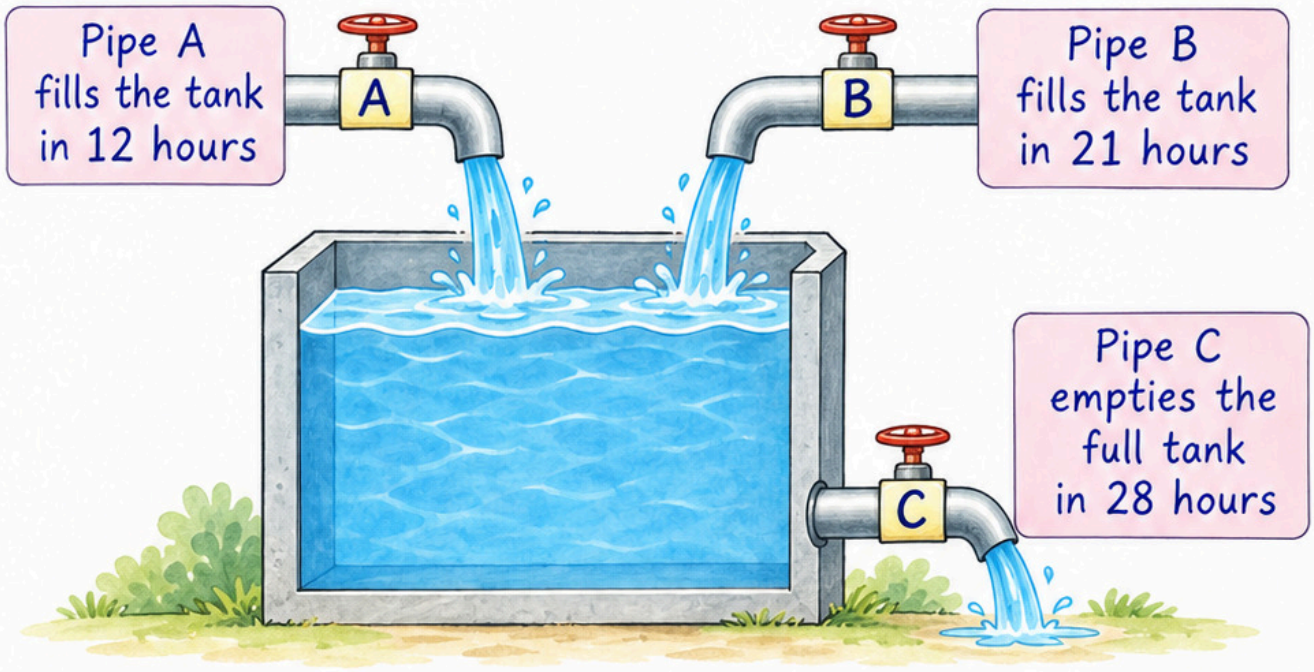
Faster outlet: empties in 18 hours



$9 \times 18 \div 9 = 18$ hours, not 9 hours.

Question 1

Q1. Two inlet pipes A and B can fill an empty tank in 12 hours and 21 hours respectively. An outlet pipe C can empty the full tank in 28 hours. If all three pipes are opened together when the tank is empty, in how much time will the tank be full?



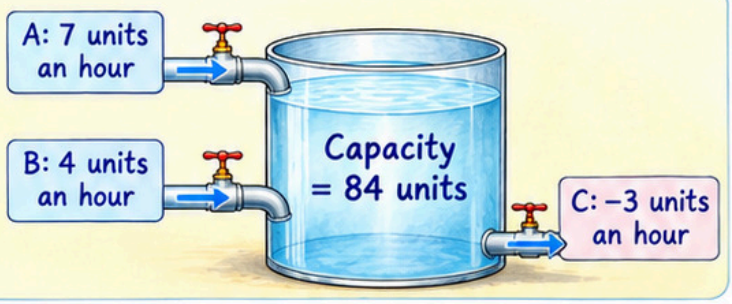
(1) 14 hours

(2) 12 hours

(3) 10 hours 50 minutes

(4) 10 hours 30 minutes

Question 1: worked solution



Worked solution

Step 1: $12 = 2^2 \times 3$, $21 = 3 \times 7$ and $28 = 2^2 \times 7$, so the LCM of 12, 21 and 28 is $2^2 \times 3 \times 7 = 84$. Take the capacity of the tank as 84 units.

Step 2: A fills $84 \div 12 = 7$ units an hour and B fills $84 \div 21 = 4$ units an hour. C empties $84 \div 28 = 3$ units an hour, so its rate is -3.

Step 3: net rate $= 7 + 4 - 3 = 8$ units an hour.

Step 4: time $= 84 \div 8 = 10\frac{1}{2}$ hours, that is, 10 hours 30 minutes.

Check by the rate method:

$$\frac{1}{12} + \frac{1}{21} - \frac{1}{28} = \frac{7}{84} + \frac{4}{84} - \frac{3}{84}$$

$$= \frac{8}{84} = \frac{2}{21} \text{ of the tank an hour,}$$

so the time is $\frac{21}{2}$ hours.

Rates and time summary

Pipe	Original time	Rate (units an hour)
A (inlet)	12 hours	7
B (inlet)	21 hours	4
C (outlet)	28 hours	−3
Together (net)	–	8
Capacity / Time	84 units	$10\frac{1}{2}$ hours

Sense check: A and B alone would take $84 \div 11 = 7\frac{7}{11}$ hours, and the outlet makes the time longer than that. B fills 4 units an hour and C empties only 3, so the three together fill faster than A alone, which takes 12 hours. The answer must lie between $7\frac{7}{11}$ hours and 12 hours. This rules out (1) and (2), but only the full working separates (3) from (4).

Why (1) is wrong: $14 = 84 \div (7 - 4 + 3)$. It puts the minus sign on the inlet B instead of the outlet C. Only the pipe that empties the tank gets the minus sign.

Why (2) is wrong: $12 = 84 \div 7$, the time of A alone. It treats B and C as if they cancel each other out. But B adds 4 units an hour and C takes away only 3, so the net rate is $7 + 4 - 3 = 8$, not 7.

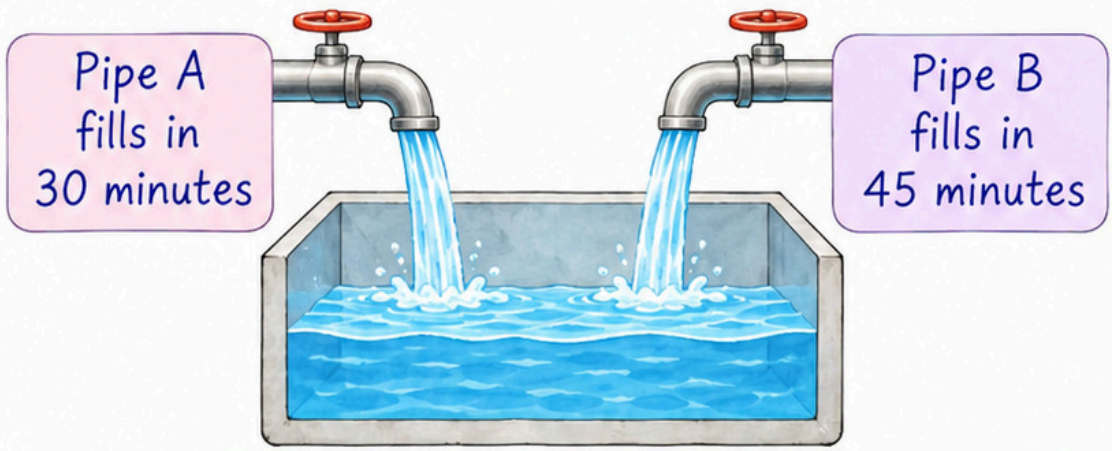
Why (3) is wrong: 10 hours 50 minutes reads 10.5 hours as 10 hours and 50 minutes. The time $84 \div 8 = 10\frac{1}{2}$ hours, and half an hour is 30 minutes, not 50.

Answer: (4) 10 hours 30 minutes

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Question 2

Q2. Pipes A and B can fill an empty tank in 30 minutes and 45 minutes respectively. Both pipes are opened together when the tank is empty. After 12 minutes pipe B is closed, and pipe A alone fills the rest of the tank. For how many more minutes after B is closed must A run to fill the tank?



Options:

(1) 10 minutes

(2) 15 minutes

(3) 22 minutes

(4) 30 minutes

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Question 2: worked solution

Answer: (1) 10 minutes

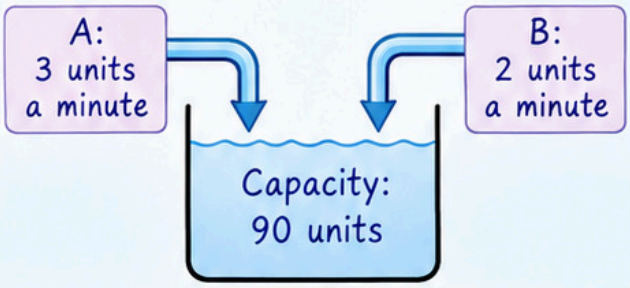
Worked solution

Step 1: the LCM of 30 and 45 is 90. Take the capacity as 90 units. A fills $90 \div 30 = 3$ units a minute and B fills $90 \div 45 = 2$ units a minute.

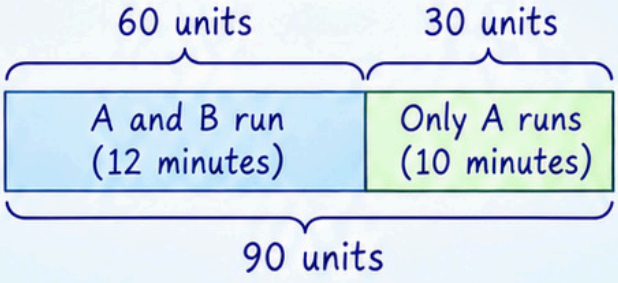
Step 2: in the first 12 minutes both pipes run: $12 \times (3 + 2) = 60$ units.

Step 3: $90 - 60 = 30$ units are left, and only A runs now: $30 \div 3 = 10$ more minutes.

Capacity / rate diagram



Progress diagram (units)



Check by the rate method: in 12 minutes the two fill

$$12 \times \left(\frac{1}{30} + \frac{1}{45}\right) = 12 \times \frac{5}{90} = \frac{2}{3} \text{ of the tank.}$$

$\frac{1}{3}$ is left, and A takes $\frac{1}{3} \div \frac{1}{30} = 10$ minutes.

Why (2) is wrong: $15 = 30 \div 2$. It divides the units left by B's rate, but B has been closed; only A fills the rest.

Why (3) is wrong: $22 = 12 + 10$ is the time from the start. The question asks for the minutes after B is closed.

Why (4) is wrong: $30 = 90 \div 3$ is the time A takes to fill the whole tank alone. It forgets the 60 units already filled in the first 12 minutes.

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Chagos and Diego Garcia: get the place right

Chagos is an archipelago in the central Indian Ocean. Diego Garcia is its largest island and hosts the joint UK-US military base.

Hierarchy (location and use):

INDIAN OCEAN
↓
Chagos Archipelago
↓
Diego Garcia
↓
UK-US military base

Location cues (approximate):

Location cue	Description
Relative to Indian subcontinent	• About 1,600 km southwest of India.
Relative to Maldives	• About 500 km south of the Maldives.
Ridge position	• Southernmost archipelago of the Chagos-Laccadive Ridge.

Composition:

Approximately 58 islands and coral atolls. Coral-island counts can vary.

Legal name: British Indian Ocean Territory (BIOT).

Since 1976: Since 1976, BIOT and the Chagos Archipelago have been coterminous.

Meaning: Coterminous means sharing the same territorial extent.

Key distinction (comparison):

Term	Meaning
Chagos	• The island group (an archipelago) in the central Indian Ocean.
Diego Garcia	• An island within the Chagos Archipelago (and its largest island).
BIOT	• The UK administrative territory designation for the Chagos Archipelago (including Diego Garcia).

Do not confuse:

Diego Garcia is not part of the Maldives, not a separate island chain, and not the whole archipelago.

Context chain (legal milestones):

Separation from Mauritius in 1965 → Decolonisation dispute → ICJ advisory opinion in 2019 → UK-Mauritius treaty signed in 2025

This chain describes legal milestones; signature alone does not establish entry into force.

Separation came before independence.

Timeline:

Date	Event
1814	• Under the Treaty of Paris, France ceded Mauritius (then Isle de France) and the Chagos Islands to Britain.
1965	• Chagos was detached from Mauritius; a £3 million grant was provided to Mauritius.
8 November 1965	• British Indian Ocean Territory created by Order in Council.
16 December 1965	• UN General Assembly resolution 2066 (XX), later recalled in resolution 73/295.
1968	• Mauritius became independent.
1976	• The territory's boundaries changed; Chagos and BIOT became coterminous.

Causal diagram:

Detachment in 1965 → Independence in 1968 without Chagos → Question whether decolonisation was lawfully completed.

Conceptual:

A colonial separation before independence is not the same as a freely negotiated territorial transfer between two independent States.

The ICJ later examined whether detachment reflected the free and genuine will of the people concerned.

Comparison:

Year	Meaning
1965	• Separation and creation of BIOT.
1968	• Mauritian independence.
2019	• ICJ advisory opinion on legal consequences.

Exam trap:

- Do not date the separation to 1968. The very title of the ICJ proceedings refers to separation in 1965.
- Keep the history separate from the later 2025 treaty signature and entry-into-force process.

Defence agreement and displacement.

- The 1966 UK–US Exchange of Notes enabled defence use of the territory. Its initial period was 50 years, with provision for a further 20 years beyond 2016.
- This arrangement is distinct from the UK–Mauritius treaty signed in 2025.

Conceptual timeline (not to scale):

1966 defence arrangement → initial 50-year period → 2016 → further 20-year provision

Displacement and its implications:

- Between 1968 and 1973, Chagossian inhabitants were removed to Mauritius or Seychelles and were prevented from returning.
- The military-base question therefore has a human dimension involving displacement, resettlement and protection of rights.

Causal chain:

Removal from home → loss of access and return → resettlement and human-rights question

Comparison:

Dimension	Meaning
Defence arrangements	• base use, security and operating rights.
Decolonisation	• territorial separation and sovereignty.
Human rights	• displacement, return and resettlement.

These dimensions overlap but must not be treated as identical.

Link to later developments:

- In its 2019 opinion, the ICJ treated resettlement of Mauritian nationals, including those of Chagossian origin, as a human-rights issue for the General Assembly to address.
- Under Article 6 of the signed 2025 treaty, Mauritius may implement resettlement on islands other than Diego Garcia.

Final distinction:

- A provision allowing resettlement is not proof that a resettlement programme has already occurred.

ICJ advisory opinion: the request and findings.

- Article 96 of the UN Charter permits the General Assembly or Security Council to request an advisory opinion on any legal question.
- In this case, the requesting body was the General Assembly.

Legal route:

UN General Assembly → resolution 71/292 of 22 June 2017 → request for advisory opinion → International Court of Justice

Opinion date:

25 February 2019

Case title:

Legal Consequences of the Separation of the Chagos Archipelago from Mauritius in 1965.

Voting:

Issue	Vote
Jurisdiction	unanimous
Decision to give the opinion	12 votes to 2
Each of the three operative findings below	13 votes to 1

The operative findings:

1. Mauritius's decolonisation was not lawfully completed when it became independent in 1968.
2. The UK must end its administration of Chagos as rapidly as possible.
3. All Member States must cooperate with the United Nations to complete Mauritius's decolonisation.

Important distinction:

- Do not confuse the vote to give the opinion with the votes on its findings.

Functional comparison:

REQUEST = 2017, UNGA resolution 71/292 → OPINION = 2019, ICJ legal conclusions → LATER UNGA RESPONSE = resolution 73/295.

Exam reminder:

- This was an advisory opinion, not the ITLOS maritime-boundary judgment.

Why decolonisation was incomplete.

- ICJ advisory opinion: why the decolonisation of Mauritius was not completed.
- The reasoning links the validity of the separation, the duty to end the UK's administration, and the obligation of international cooperation, with a human-rights aspect.

Main legal reasoning (three parts):

1. **FREE AND GENUINE WILL** — The separation of Chagos was not based on the free and genuine expression of the will of the people concerned.
2. **CONTINUING WRONGFUL ACT** — The UK's continued administration constituted a wrongful act; the UK was obliged to end it as rapidly as possible.
3. **INTERNATIONAL COOPERATION** — UN Member States were obliged to cooperate with the United Nations to complete Mauritius's decolonisation.

Functional reasoning chain:

Detachment without free and genuine will ⇨ Decolonisation not lawfully completed at independence ⇨ Duty to end administration and cooperate

Three questions and their focus:

Question	Focus
Territorial decolonisation	status of separation and administration.
Human rights	displacement, return and resettlement of affected people.
Base operation	defence arrangements and operational rights.

Human rights:

- The resettlement of Mauritian nationals, including people of Chagossian origin, concerned protection of human rights.
- The General Assembly was to address that issue.

Legal issue: The legal issue is not exhausted by the strategic usefulness of the military base.

Important date comparison:

1965 = separation ⇨ 1968 = independence ⇨ 2019 = advisory opinion

Final takeaway:

- Explain the reasoning, not only the result: consent, decolonisation, cessation and cooperation are linked; resettlement adds a human-rights dimension.

UN General Assembly resolution 73/295.

Date: 22 May 2019

Substantive provisions:

1. Welcomed the ICJ advisory opinion.
2. Affirmed that Chagos forms an integral part of Mauritius.
3. Demanded unconditional withdrawal of the UK's colonial administration within no more than six months.

Call upon:

- It called upon the UN and its specialised agencies to recognise Chagos as part of Mauritius.

Vote:

Position	Number of States
In favour	116
Against	6
Abstentions	56
Not voting	15

The six opposing States:

- Australia
- Hungary
- Israel
- Maldives
- United Kingdom
- United States

- India voted in favour.

India's position:

- Permanent Representative Syed Akbaruddin distinguished Indian Ocean security concerns from the Chagos decolonisation question and urged a mutually agreeable understanding as soon as possible.

Functional sequence:

ICJ opinion 25 February 2019 ⇨ UNGA resolution 22 May 2019 ⇨ Demand for withdrawal within six months

Key distinction:

- ICJ opinion says **as rapidly as possible.**
- UNGA resolution specifies **no more than six months.**

Exam traps:

- Maldives voted **AGAINST**, not in favour.
- Resolution 71/292 requested the opinion in2017; resolution 73/295 responded to the opinion in2019.
- Six months was a demand in the resolution, not evidence that withdrawal occurred in six months.

Chagos: three institutions, three different roles

ITLOS: the Mauritius–Maldives boundary case

Key facts and outcome:

On 28 January 2021, a Special Chamber of the International Tribunal for the Law of the Sea (ITLOS) delivered its judgment on preliminary objections in Case No.28: Mauritius/Maldives. It found jurisdiction to hear the maritime-boundary dispute and held Mauritius's claim admissible. This was not an ICJ judgment. The Chamber considered that Mauritius's sovereignty over Chagos could be inferred from the ICJ's determinations, and treated Mauritius as the relevant coastal State for maritime delimitation even before decolonisation was completed.

Three institutions and their roles:

ICJ	• Judicial body of the United Nations; gives advisory opinions and judgments on questions of international law (e.g. decolonisation).
UN General Assembly (UNGA)	• Political (deliberative) organ of the United Nations; adopts resolutions (e.g. calling for the withdrawal of the United Kingdom from Chagos).
ITLOS (Special Chamber)	• International Tribunal for the Law of the Sea; a specialised judicial body that applies the law of the sea, including maritime delimitation (e.g. the Mauritius/Maldives boundary case).

Key stages in the ITLOS Mauritius/Maldives case:

28 January 2021
Preliminary objections: jurisdiction and admissibility.

→

28 April 2023
Judgment on the merits (on the maritime boundary).

Not the same date or procedural stage: 28 January 2021 = preliminary objections, jurisdiction and admissibility; 28 April 2023 = judgment on the merits.

Comparison of the three institutions:

Institution	Date	Role / outcome
ICJ	25 February 2019	• Advisory opinion on decolonisation.
UN General Assembly	22 May 2019	• Resolution73/295 calling for withdrawal.
ITLOS Special Chamber	28 January 2021	• Jurisdiction and admissibility in maritime-boundary case.

Overall process (functional chain):

Decolonisation question → ICJ advisory opinion. → **Political response** → UNGA resolution. → **Maritime delimitation** → ITLOS proceedings.

Exam trap:
- ITLOS is not the International Court of Justice.
- A preliminary-objections judgment is not the final merits judgment.

From political understanding to signed treaty.

Two-stage timeline:

3 October 2024 → Joint UK-Mauritius political agreement announced. → 22 May 2025 → Treaty signed at London and Port Louis.

The 3 October 2024 political agreement:

- The proposed arrangement recognised Mauritian sovereignty over the archipelago including Diego Garcia.
- Envisaged UK rights over Diego Garcia for an initial 99-year period.
- Allowed Mauritius to initiate resettlement on islands other than Diego Garcia.
- Envisaged a UK-funded Chagossian trust fund.

- The statement thanked India and the United States for support.

The 22 May 2025 treaty:

- Signatories were Keir Starmer for the United Kingdom and Navin Ramgoolam for Mauritius.
- Formal name: Agreement between the Government of the United Kingdom of Great Britain and Northern Ireland and the Government of the Republic of Mauritius concerning the Chagos Archipelago including Diego Garcia.
- The agreement was not in force at signature.

Functional ladder:

Political agreement → Signed treaty text → Internal legal requirements (required process) → Diplomatic notifications (required process) → Entry into force (required process)

Comparison:

Date and step	What it does
2024 statement	Sets the political framework.
2025 treaty	Specifies articles, annexes, rights, payments and entry procedure.

Key trap:

- The United States supported the arrangement but is not a party to this bilateral UK-Mauritius treaty.
- Do not substitute the 1966 UK-US defence agreement for the 2025 UK-Mauritius treaty.

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Sovereignty and base operation are different rights

UK-Mauritius Agreement signed on 22 May 2025

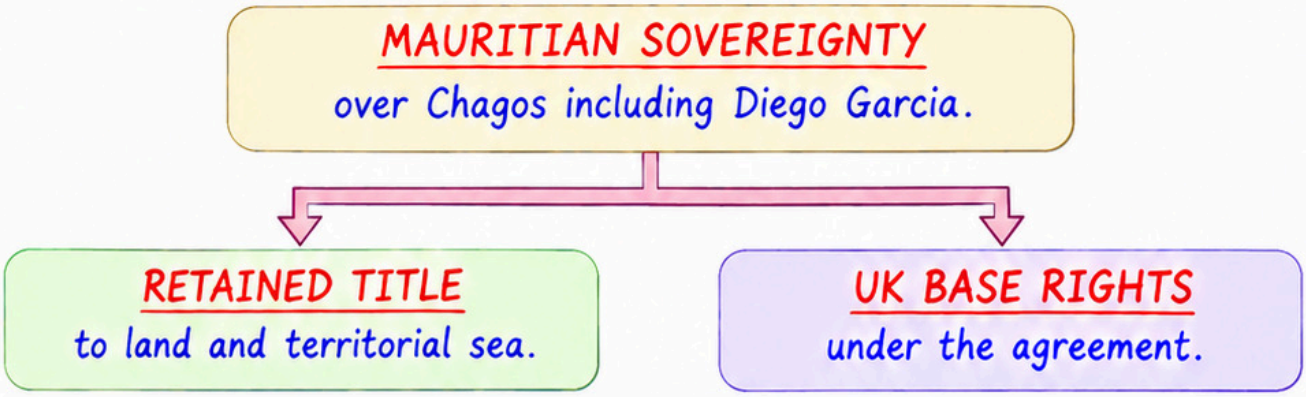
Article 1:

The agreement recognises Mauritius as sovereign over the entire Chagos Archipelago, including Diego Garcia. This is a provision of the signed treaty; it must not be used alone to claim that the treaty has entered into force.

Article 2:

Mauritius authorises the UK to exercise specified rights and authorities with respect to Diego Garcia to secure the long-term, effective operation of the military base. Mauritius retains certain rights, including title to the land and territorial sea of Diego Garcia.

Diagram of legal distinction:



Existing base:

Diego Garcia hosts a UK-US military base. The United States is not a party to the 2025 UK-Mauritius treaty.

Comparative table:

Arrangement	Parties	Focus
1966 arrangement	UK and US	• defence use of the territory.
2025 treaty	UK and Mauritius	• sovereignty, base rights and related arrangements.

Interpretation:

Sovereignty, land title and operational control are not interchangeable terms. The agreement provides a legal framework for the base without treating Diego Garcia as excluded from Mauritian sovereignty.

Status caution:

Signed terms are not the same as implemented terms. Check entry into force separately.

The treaty clock starts at entry into force.

Key lessons:

- Article 13: initial duration 99 years FROM ENTRY INTO FORCE, not from signature.
- Optional extension: a further 40 years, only if both parties agree on conditions.
- Separately, the UK has a right of first refusal over use of Diego Garcia for 40 years after the initial period.
- An extension and a right of first refusal are different provisions; do not add them automatically to claim a guaranteed 179-year term.

Article 13: duration, extension and first refusal

Initial duration	• Article 13: initial duration 99 years FROM ENTRY INTO FORCE, not from signature.
Optional extension	• Optional extension: a further 40 years, only if both parties agree on conditions.
Right of first refusal	• Separately, the UK has a right of first refusal over use of Diego Garcia for 40 years after the initial period.

Do not add the periods together:

- An extension and a right of first refusal are different provisions; do not add them automatically to claim a guaranteed 179-year term.

Article 18: entry process (steps to entry into force):

Article 18 entry process	1. Each party completes its internal requirements. 2. Each sends a diplomatic note confirming completion. 3. Identify the LATER of the two notes. 4. Entry into force on the FIRST DAY OF THE FIRST MONTH after that later note.

Conceptual timeline (treaty clock):

NOT TO SCALE

Signature 22 May 2025 → Internal requirements and diplomatic notes → Entry into force (date not assumed) → 99-year initial term

Optional extension (conditional):

- A further 40 years, only if both parties agree on conditions.

Right of first refusal (separate):

- The UK has a right of first refusal over use of Diego Garcia for 40 years after the initial period.

Worked hypothetical:

- If the later note were received on 15 March, entry would be 1 April. This is an illustration, NOT the actual treaty entry date.

Exam trap:

- Signature ≠ ratification ≠ entry into force.
- The agreement's terms must not be described as already implemented merely because the treaty was signed.

Security arrangements around Diego Garcia

Annex 1 of the signed UK-Mauritius treaty

Legal comparison:

BETWEEN 12 AND 24 NAUTICAL MILES	Mauritius and the UK jointly decide on construction or emplacement of any maritime installation.
BEYOND 24 NAUTICAL MILES	Mauritius undertakes a Security Review before approving specified developments.
OTHER SECURITY FORCES	Allowing forces other than those of the UK, US and Mauritius normally requires joint decision.

Explanation:

These are treaty-defined consent and review requirements, not a blanket exclusion of every civilian activity.

Humanitarian and natural-disaster exception:

Assistance by other forces may be permitted when UK or US forces are unable or unwilling to provide it. A presence continuing beyond 30 days requires joint decision.

Decision tree:

SECURITY DECISION PROCESS
(Annex 1, UK-Mauritius treaty)

- Proposed maritime installation in 12-24 nautical-mile zone → Joint UK-Mauritius decision.
- Specified development beyond 24 nautical miles → Mauritian Security Review
- Other security-force presence → Joint decision, subject to limited emergency exception.

Important contrast:

Political descriptions such as a 'buffer zone' or a 'ban' must not erase the conditions and exceptions in the treaty.

Exam focus:

- Zone = 12-24 nautical miles.
- Authority = joint decision.
- Beyond 24 = Security Review.
- Emergency presence beyond 30 days = joint decision.

Resettlement and the settlement of claims

UK-Mauritius Agreement signed on 22 May 2025

Article 6:

Mauritius is free to implement a resettlement programme on Chagos islands OTHER THAN DIEGO GARCIA.

Simple word-box comparison:

Outer islands	⇨	Resettlement programme may be implemented.
Diego Garcia	⇨	Excluded from this resettlement provision.

Important: Permission to implement is not proof of completed resettlement.

Chagossian welfare:

Article 11 provides for the UK to capitalise a trust fund for Chagossians. The separate financial arrangements specify £40 million.

Keep this separate from annual base-related payments and development grants.

Article 11 also treats the treaty as full and final settlement of Mauritius's claims relating to the archipelago.

Distinguishing concepts: State claims concern Mauritius's legal claims in international law to the archipelago. This is different from the human dimension of displacement, which relates to the rights and welfare of Chagossians, including the impact of their displacement and resettlement.

Three-column functional comparison:

Provision	Treaty basis	Meaning
Resettlement	Article 6	islands other than Diego Garcia.
Chagossian trust fund	Article 11 and separate letters	£40 million.
Settlement of claims	Article 11	Mauritius's claims concerning the archipelago.

Human-rights context:

The ICJ's 2019 opinion identified resettlement of Mauritian nationals including Chagossians as a matter concerning protection of human rights, for the General Assembly to address.

Final exam traps:

- Resettlement is not allowed on every island under Article 6.
- The £40 million trust is not the £45 million annual development grant.
- Signed provisions must not be presented as already implemented.

Chagos financial arrangements: do not mix the figures

UK–Mauritius Agreement signed on 22 May 2025

Article 11:

Article 11 lists three commitments:
(1) annual payment;
(2) Chagossian trust fund;
(3) development funding over 25 years.

Exchange of Letters:

The amount and modalities for these financial commitments are separately agreed in an Exchange of Letters.

Financial commitments:

Commitment	Amount and period
Annual payment years 1 – 3	£165 million a year.
Annual payment years 4 – 13	£120 million a year.
Chagossian trust fund	£40 million.
Development grants	£45 million a year for 25 years.

After year 13:

After year 13, there is a bridge period to 31 December which is prorated at £120 million annual rate. Subsequent annual payments follow calendar years and are adjusted using the UK GDP deflator for the preceding calendar year. The final part-year is prorated.

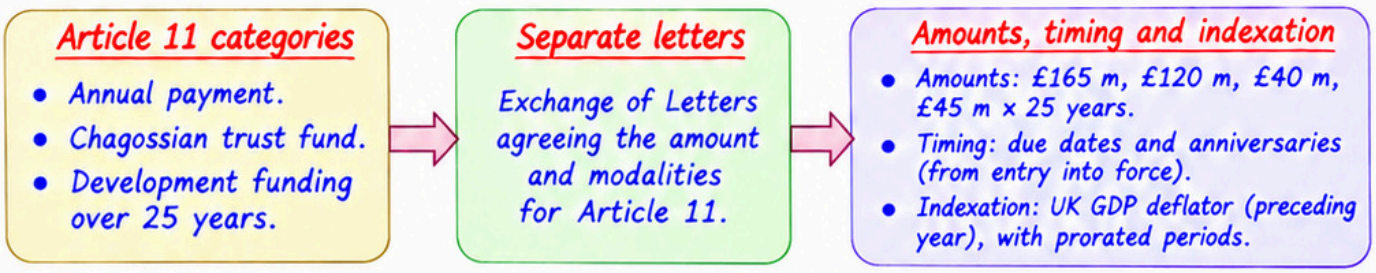
Timing:

- Later annual payments are due on 1 May or within 21 days, unless extended by agreement.
- The trust payment falls in the month after the first entry-into-force anniversary.
- The first development grant falls in the month after the third anniversary; grants continue annually for 25 years.

Contractual cash flows vs valuation:

Distinguish between contractual cash flows and valuation. The £101 million announced annual-cost estimate and the £3.4 billion net present value are NOT a fixed £101 million annual instalment.

Diagram (functional flowchart):



Exam traps:

- £40 million trust ≠ £45 million annual grant.
- Years 1 – 3 rate ≠ years 4 – 13 rate.
- The payment clock depends on entry into force, not merely signature.

Status caution:

Signed terms are not the same as implemented terms. Check entry into force separately.

Implementation: read the dates carefully.

UK Bill timeline: key stages and developments

The UK Bill timeline:

15 July 2025	Bill introduced in the House of Commons.
20 October 2025	Commons third reading.
12 January 2026	Lords third reading.
20 January 2026	Commons considered Lords amendments and disagreed with some.
13 April 2026	Government said the Bill could not complete passage in that session and could not be carried over.
29 April 2026	Parliamentary session ended.
13 May 2026	King's Speech programme did not list a Diego Garcia Bill.

Explaining the April position:

- 11 April 2026: the transfer plan was reported on indefinite hold after the US withdrew support; the UK stressed that Diego Garcia remained a vital strategic asset.
- Updating the 1966 UK–US exchange of notes was necessary for ratification.
- The government stated that it could not let the treaty enter into force without US support.
- The Bill had not completed enactment in that session.

DATED STATUS:

- On 8 October 2026, a parliamentary briefing reported that the treaty had not entered into force and UK ratification was paused.
- This is a dated status, not proof of every subsequent day's position.

NOVEMBER DEVELOPMENT:

- On 4 November 2026, UK Prime Minister Andy Burnham met Mauritius Prime Minister Navin Ramgoolam at CHOGM in Antigua.
- Readout published 5 November: they agreed to work on a shared plan for further progress by year-end.
- Distinguish the meeting date (4 November) from the publication date (5 November).
- This was NOT an announcement of treaty entry into force.

Process trap: what the dates do and do not mean:

- Passing some parliamentary stages ≠ enactment.
- Enactment ≠ completion of all treaty entry requirements.
- A diplomatic meeting ≠ implementation.

National positions and India's stake.

Functional comparison

Position table:

Country	Position
UNITED KINGDOM	Presented the 2025 deal as securing continued base operation; in April 2026 said entry into force required US support.
MAURITIUS	Seeks completion of decolonisation and recognition of sovereignty over the entire archipelago; the 2025 treaty's Article 1 includes Diego Garcia.
UNITED STATES	Supported the May 2025 agreement, but the UK's April 2026 position showed that US support remained critical to implementation; distinguish political support from being a treaty party.
MALDIVES	Voted against UNGA resolution 73/295 and was the other party in the ITLOS maritime-boundary case.
INDIA	Supported Mauritius's sovereignty claim and voted in favour of resolution 73/295.

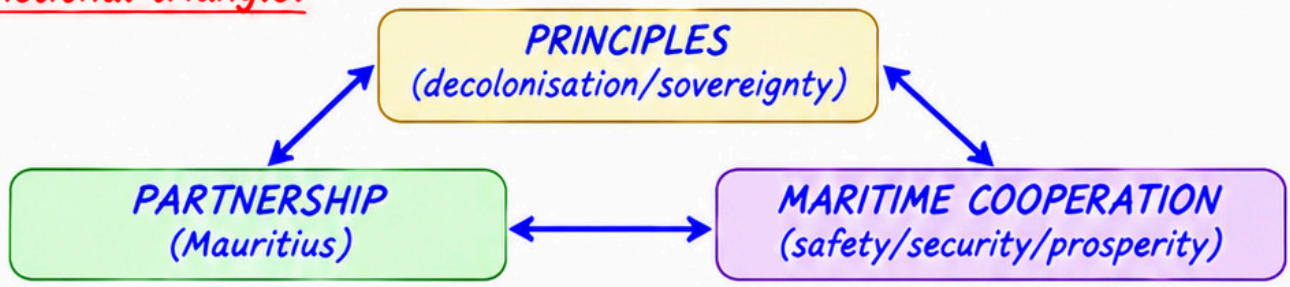
India's diplomatic position:

- Welcomed the 3 October 2024 understanding and 22 May 2025 treaty.
- Emphasised decolonisation, sovereignty and territorial integrity.
- Prime Minister Modi on 11 September 2025 reiterated support for decolonisation and full recognition of Mauritius's sovereignty.
- India also committed to work with Mauritius and like-minded partners for maritime safety, security and prosperity in the Indian Ocean.

Mauritius links:

- SAGAR launched 2015.
- MAHASAGAR announced 2025.

Functional triangle:



Mauritius's Foreign Minister Dhananjay Ramful at UNGA 25 September 2026:

- Highlighted the role of multilateral diplomacy and UN judicial bodies in peaceful dispute settlement and urged correction of historical injustice.

Exam insight:

- India's support for Mauritian sovereignty does not mean rejecting every security concern; distinguish decolonisation from base operation and regional cooperation.

Chagos chronology: connect the milestones.

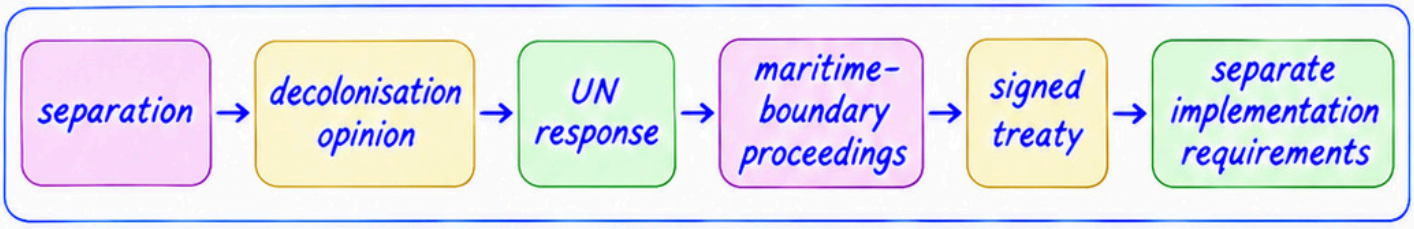
Full revision: key dates, events and links

Date	Event
1814	Treaty of Paris: Britain receives Mauritius and Chagos.
1965	Chagos detached; £3 million grant to Mauritius.
8 November 1965	BIOT created.
16 December 1965	UNGA resolution 2066 (XX).
1966	UK–US defence arrangement.
1968	Mauritius independent.
1968–1973	Inhabitants removed and prevented from returning.
1976	BIOT becomes coterminous with Chagos.
22 June 2017	UNGA resolution 71/292 requests ICJ opinion.
25 February 2019	ICJ advisory opinion.
22 May 2019	UNGA resolution 73/295.
28 January 2021	ITLOS preliminary-objections judgment.
28 April 2023	ITLOS merits judgment.
3 October 2024	Political agreement announced.
22 May 2025	UK–Mauritius treaty signed.
15 July 2025	UK implementing Bill introduced.
January 2026	Lords stages completed; Commons considers amendments.
April 2026	Bill cannot complete passage or be carried over; session ends 29 April.
13 May 2026	King's Speech lists no Diego Garcia Bill.
8 October 2026	Dated parliamentary briefing: treaty not in force, ratification paused.
4–5 November 2026	Meeting on 4 November; readout published 5 November.

Exam traps:

- Separation in 1965, NOT independence in 1968.
- Defence agreement in 1966 was UK–US; treaty in 2025 is UK–Mauritius.
- Diego Garcia belongs to Chagos, NOT Maldives.

Reasoning chain:



Q1.

Consider the following statements about the Chagos Archipelago before the 2024 political agreement:

1. The UN General Assembly asked the International Court of Justice for the advisory opinion on the Chagos Archipelago through its resolution 71/292 of June 2017.
2. General Assembly resolution 73/295 demanded that the United Kingdom withdraw its colonial administration from the Chagos Archipelago unconditionally within a period of no more than six months.
3. The Maldives voted in favour of General Assembly resolution 73/295 in May 2019.
4. The judgment on preliminary objections of 28 January 2021 in the Mauritius/Maldives maritime boundary case was given by a Special Chamber of the International Court of Justice.

Which of the statements given above is/are correct?

(1)	1 and 3 only
(2)	2 and 4 only
(3)	1 and 2 only
(4)	3 and 4 only

Q1. Answer: (3) 1 and 2 only

Statement 1: True

Statement 1 is correct: the General Assembly requested the opinion by resolution 71/292, adopted on 22 June 2017. Article 96 of the Charter lets the General Assembly or the Security Council make such a request; here it was the General Assembly.

Statement 2: True

Statement 2 is correct: resolution 73/295 of 22 May 2019 demanded that the UK withdraw its colonial administration from the archipelago unconditionally within a period of no more than six months.

Statement 3: False

Statement 3 is wrong: the Maldives was one of the six States that voted against the resolution, with Australia, Hungary, Israel, the UK and the US. The vote was 116 in favour, 6 against and 56 abstentions.

Statement 4: False

Statement 4 is wrong: the judgment on preliminary objections of 28 January 2021 was given by a Special Chamber of the International Tribunal for the Law of the Sea (ITLOS), in its Case No. 28, not by the ICJ. The ICJ's role in the Chagos question was the advisory opinion of 2019.

Key flow (sequence):

2017
Resolution 71/292: request for opinion.

→

2019
Resolution 73/295: demand to withdraw within six months.

→

2021
ITLOS, Case No. 28: preliminary objections judgment (not ICJ).

Why the other options are wrong:

(1) includes statement 3 and leaves out statement 2.
(2) includes statement 4 and leaves out statement 1.
(4) includes both wrong statements and neither correct one.

Q2. Consider the following statements about the UK-Mauritius Agreement concerning the Chagos Archipelago including Diego Garcia, as signed on 22 May 2025:

1. The Agreement has a duration of 99 years counted from the date of its signature.

2. The Agreement may be extended for a further 40 years, provided that the parties agree on the conditions.

3. In the zone between 12 and 24 nautical miles around Diego Garcia, Mauritius and the United Kingdom are to decide jointly on the construction or emplacement of any maritime installation.

4. The text of the Agreement leaves the amounts and modalities of the payments by the United Kingdom to be agreed separately.

Which of the statements given above is/are correct?

(1) 1, 2 and 3 only

(2) 2, 3 and 4 only

(3) 3 and 4 only

(4) 1 and 2 only

Q2. Answer: (2) 2, 3 and 4 only

Statement 1: (False)

Statement 1 is wrong: Article 13 gives the Agreement a duration of 99 years from the entry into force of this Agreement, not from the date of signature. Entry into force (Article 18) comes only after both parties notify that they have completed their internal requirements.

Statement 2: (True)

Statement 2 is correct: Article 13 says the Agreement may be extended for a further 40 years, provided that the parties reach an agreement on the conditions.

Statement 3: (True)

Statement 3 is correct: under Annex 1, between 12 and 24 nautical miles around Diego Garcia, Mauritius and the UK shall jointly decide on the construction or emplacement of any maritime installation.

Statement 4: (True)

Statement 4 is correct: Article 11 lists an annual sum, a trust fund for Chagossians and development funding over 25 years, and says the amounts and modalities shall be agreed separately. The figures are in a separate Exchange of Letters.

Key legal flow:

Article 13 – Duration and extension

- **99 years** from the entry into force of this Agreement.
- **Further 40 years** if the parties reach an agreement on the conditions.

Why the other options are wrong:

(1) includes statement 1 and leaves out statement 4.
(3) leaves out statement 2, which is correct.
(4) includes statement 1 and leaves out statements 3 and 4.

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