KAMALDNP

E-Learning Website

English Edition / 2027

Uttar Pradesh Subordinate Services Selection Commission

UPSSSC PET

Complete Guide

Study and practice for the Preliminary Eligibility Test



Raj Kamal

KAMALDNP

15 chapters / 220 practice questions / Answers with explanations

Contents

Choose a chapter name to go straight to that part of the book.

Understand the Exam 3

From PET to the Main Examination 3

01 Indian History 5

02 Indian National Movement 10

03 Geography 14

04 Indian Economy 18

05 Indian Constitution and Public Administration 22

06 General Science 26

07 Elementary Arithmetic 29

08 General Hindi 32

09 General English 36

10 Reasoning and Mental Ability 41

11 Current Affairs 45

12 General Awareness 50

13 Unseen Hindi Passage 56

14 Graph Interpretation and Analysis 61

15 Table Interpretation and Analysis 68

Appendix A • Supplementary Reasoning Practice 73

Appendix B • Sources and References 76

Understand the Exam

Exam plan based on the 2026 advertisement

This is KAMALDNP's independent English study edition for 2027 preparation. When the 2027 notification and dates are confirmed, the rules of that advertisement will apply. The fact-check date of this book is 24 November 2026.

Subject	2026 rules and meaning
Scope of recruitment	Two-stage selection process for Group 'C' posts under UPSSSC.
Examination	100 objective questions • 100 marks • 120 minutes. ¼ mark deducted for a wrong answer.
Exam weightage	Sections 1–10, 5 marks each. Sections 11–15, 10 marks each. Total 50 + 50 = 100.
Educational level	The notification prescribes NCERT secondary / higher secondary level for subjects 1–9.
Score and selection	Score valid for three years from the date the result is declared or uploaded. The post-wise advertisement decides which PET score and which additional qualifications are valid.

Work out your raw score

If 70 answers are correct, 10 wrong and 20 blank, raw score = 70 − (10 × 0.25) = 67.5. In multiple shifts the Commission may normalise for comparative evaluation. Shortlisting for the main examination depends on the post's merit and the advertisement.

In every chapter, first read the concept, then see the solved example. After finishing the practice, open the answer key. This book has 209 chapter-practice questions and 11 appendix questions. Solved examples are separate.

From PET to the Main Examination

Read the advertisement year and the eligibility-test year separately.

Conditions for applying in 2026 For the 2026 preliminary examination, a High School or equivalent qualification and OTR were prescribed. The general age limit was 18–40 years as on 1 July 2026. Relaxations for reserved and special categories are given in section 8.2 of the advertisement. Apply after checking your actual category, including EWS, and the applicable government order.

Base fee category	Total including processing fee
General and Other Backward Classes	₹185 = ₹160 + ₹25
Scheduled Castes and Scheduled Tribes	₹95 = ₹70 + ₹25
Persons with Disabilities	₹25 processing fee

The original application period for Advertisement 16-Exam/2026 was 3 August to 1 September. The period was extended to 7 September. The examination was held on 25 October, 30 October and 1 November 2026. The provisional key came on 2 November and the objection period was 6–12 November. Dated official confirmation of the final result and the 2027 schedule was not available to this edition.

Four recruitment examples Advertisement / post — PET and recruitment context

- 02-Exam/2025 • Lekhpal — PET-2025. 7,994 advertised posts. Main examination: 100 questions, 100 marks, two hours, ¼ mark deducted for a wrong answer.
- 26-Exam/2026 • Intermediate level — PET-2025. 1,784 posts in the original advertisement. Read the post-wise education, computer certificate and other conditions separately.
- 12-Exam/2024 • Junior Assistant — PET-2023. 2,702 posts in the original advertisement. The September 2026 result report showed 3,279 posts.
- 07-Exam/2022 • Moharir — PET-2021. This differs from the advertisement year. The exam-city slip and the admit card are separate documents.

A post of the same name may also be filled by another recruiting body. For example, the conditions of UPPSC's Staff Nurse / Sister Grade-II examination are found in its own advertisement.

Chapter 1: Indian History

Exam weightage 5 marks • This chapter has 10 practice questions

The dock at Harappa, Ashoka's edict and Samudragupta's eulogy are three different kinds of evidence. While studying history, connect every event with the source or site from which we know about it.

Syllabus Summary

Indus Valley Civilisation • Vedic culture • Buddhism: Gautam Buddha (life and teachings) • Jainism: Mahavir (life and teachings) • Maurya dynasty: Emperor Ashoka • Gupta dynasty: Samudragupta, Chandragupta II • Harshavardhan • Rajput period • Sultanate period • Mughal Empire • Maratha • Rise of British rule and the First War of Independence • Socio-economic impact of British rule

English topic guide · Indus Valley and Vedic culture, Buddhism and Jainism, empires and dynasties, British rule and the uprising of 1857.

Indus Valley Civilisation (about 3300–1300 BCE, mature phase about 2600–1900 BCE)

Important sites: Harappa (Ravi river, excavated in 1921 under the direction of Daya Ram Sahni), Mohenjo-daro (Indus river, "Mound of the Dead"), Lothal (dock/port), Kalibangan (ploughed field, fire altars), Dholavira (reservoirs), Rakhigarhi (major Harappan site in Haryana), Banawali, Chanhu-daro (bead factory). Features: grid-like town planning, the Great Bath of Mohenjo-daro, standard weights, steatite seals (script still unread), drainage system. No temple or palace has been definitely found; there is no evidence of a single king. The Great Bath of Mohenjo-daro is a watertight tank, probably used for ritual bathing.

Vedic Culture

The Rigveda is the oldest Veda (about 1500–1200 BCE), composed in the Punjab region; its 10 mandalas contain the Gayatri Mantra (Mandala 3, composer Vishwamitra) and the Purusha Sukta (Mandala 10, the four varnas). The four Vedas: Rigveda, Samaveda (music/hymns), Yajurveda (sacrifice ritual), Atharvaveda (spells/medicine). The Upanishads are the philosophical end of the Vedas ("Vedanta").

Later Vedic period: use of iron, Painted Grey Ware (PGW), janapadas and mahajanapadas; the Kuru and Panchala kingdoms.

Buddhism — Gautam Buddha (traditional dates 563–483 BCE)

Siddhartha Gautam was born in Lumbini (Shakya clan); mother Maya, father Shuddhodana. At the age of 29, the Great Renunciation; at 35, enlightenment under the Bodhi tree at Bodh Gaya; first sermon at Sarnath (Dharmachakra Pravartan); at 80, Mahaparinirvana at Kushinagar. The Four Noble Truths: suffering exists; its cause is craving; its end is possible; the Eightfold Path ends it. The Eightfold Path: right view, resolve, speech, action, livelihood, effort, mindfulness, concentration. The Three Jewels: Buddha, Dhamma, Sangha. The first Buddhist council was held at Rajagriha after the Buddha's death; the second at Vaishali (100 years later).

Jainism — Mahavir (traditional dates 599–527 BCE)

Vardhaman Mahavir, the 24th Tirthankara; born at Kundagrama (Vaishali), father Siddhartha, mother Trishala; attained Kevala Jnana at the age of 42; attained nirvana at Pavapuri at the age of 72. The first Tirthankara was Rishabhdeva. The five Mahavratas: ahimsa, satya, asteya (not stealing), brahmacharya, aparigraha (not hoarding). Syadvada / Anekantavada is the doctrine of many-sided truth. Jain councils: Pataliputra (about 300 BCE, led by Sthulabhadra) and Vallabhi (5th century CE). After the Pataliputra council came the split into Shvetambara (white-clad) and Digambara (sky-clad).

Maurya Dynasty — Emperor Ashoka (reign about 268–232 BCE)

Founder Chandragupta Maurya (about 321 BCE), guide Chanakya (Kautilya), author of the Arthashastra. Capital: Pataliputra. The empire was divided into provinces (pradeshas); officers included the Samaharta (revenue collector) and the Pradeshta. After the Kalinga war of about 261 BCE, Ashoka expressed remorse over the loss of life; he adopted Dhamma and spread it through edicts (Prakrit language, mostly Brahmi script). Major Rock Edict XIII describes the Kalinga war and his remorse. Ashoka's pillars (Sarnath — the lion capital, now India's national emblem), the Sanchi stupa and the Sri Lanka mission (son Mahendra) spread Buddhism.

Gupta Dynasty and Learning

In the line of Sri Gupta, Chandragupta I assumed the title of Maharajadhiraja. Harishena's Prayaga Prashasti gives information about Samudragupta's campaigns. The Chinese traveller Fa-Hien came to India during the reign of Chandragupta II (about 380–415 CE). The Mehrauli iron pillar is an example of Gupta-period metallurgy. Aryabhata was born in 476 CE. He composed the Aryabhatiya in 499 CE and explained the rotation of the Earth. Kalidasa's major works are Abhijnana Shakuntalam and Meghaduta.

Harshavardhan (reign 606–647 CE)

Capital Kannauj; Pushyabhuti dynasty. Court poet Banabhatta wrote the Harshacharita; Hiuen Tsang (Xuanzang) came to India during his reign and stayed at Nalanda. Harsha held quinquennial assemblies at Prayaga. His empire covered a large part of northern India.

Rajput Period (about 700–1200 CE)

Major clans: Pratihara (Kannauj), Chauhan (Ajmer–Delhi — Prithviraj Chauhan III, defeated by Muhammad Ghori in the Second Battle of Tarain, 1192), Chandela (Khajuraho temples), Solanki (Gujarat), Parmar (Malwa), and in the Deccan the contemporary Rashtrakuta (Kailasa temple at Ellora). First Battle of Tarain (1191) — Prithviraj Chauhan defeated Muhammad Ghori; Second Battle of Tarain (1192) — Ghori won, opening the way to Turkish rule in northern India.

Sultanate Period (1206–1526)

Qutb-ud-din Aibak founded the Slave (Mamluk) dynasty in 1206 and began building the Qutb Minar (completed by Iltutmish). Razia Sultana (1236–1240) was Delhi's only woman ruler. Alauddin Khalji (1296–1316) built the Alai Darwaza, introduced the market control system and a standing army with the practice of branding horses. Muhammad bin Tughlaq shifted the capital to Daulatabad and introduced token currency. Ibrahim Lodi was defeated by Babur at Panipat (1526).

Mughal Empire (1526–1857)

Babur (1526, First Battle of Panipat) laid the foundation of the empire; Akbar (1556–1605) — Din-i-Ilahi (1582), abolition of jizya (1564), the mansabdari system, Todar Mal's revenue system; Shah Jahan built the Taj Mahal (1632–1653) and the Red Fort; Aurangzeb (1658–1707) reimposed jizya and extended the empire to its greatest extent, after which decline began. The last Mughal emperor, Bahadur Shah II, was exiled after 1857.

Maratha

Shivaji Maharaj (1630–1680) founded the Maratha state; crowned at Raigad in 1674; built the Sahyadri forts and a navy. Bajirao I carried Maratha power to the gates of Delhi; the Third Battle of Panipat (1761) — Ahmad Shah Abdali defeated the Marathas and their northward expansion was broken.

Rise of British Rule and the First War of Independence (1857)

Plassey (1757) — Robert Clive defeated Siraj-ud-Daula; the Battle of Buxar took place in 1764. In 1765 the Company received the Diwani of Bengal, Bihar and Orissa from Shah Alam II. The Subsidiary Alliance (Lord Wellesley) and the Doctrine of Lapse (Lord Dalhousie) extended British control. The 1857 revolt began at Meerut on 10 May 1857 (Mangal Pandey had fired at Barrackpore on 29 March). Leaders: Bahadur Shah II (Delhi), Rani Lakshmibai (Jhansi), Nana Sahib (Kanpur), Begum Hazrat Mahal (Lucknow), Tatya Tope. The revolt failed for lack of unity and central leadership; Company rule ended and the Crown took over under the Government of India Act, 1858.

Socio-Economic Impact of British Rule

Economic: destruction of the Indian textile industry, drain of wealth (Dadabhai Naoroji's "drain theory"), land-revenue systems — Permanent Settlement (1793, Cornwallis, Bengal), Ryotwari (Thomas Munro, Madras/Bombay), Mahalwari (Holt Mackenzie, North-West); famines became more frequent. Social: the Bengal Sati Regulation (1829, William Bentinck) ended sati; the Widow Remarriage Act (1856); Ishwar Chandra Vidyasagar's widow-remarriage campaign; English education (Macaulay's Minute, 1835); railways from 1853; the Indian Penal Code (1860).

Solved Examples

Solved Example 1: Which ruler's victories are described in the Prayaga Prashasti (Allahabad pillar inscription)? This inscription was composed by Harishena, the court poet of Samudragupta. It lists his victories in the north and the south. Answer: Samudragupta.

Solved Example 2: Which battle is called the turning point that opened the way to Turkish rule in northern India? The Second Battle of Tarain (1192): Muhammad Ghori defeated Prithviraj Chauhan III. In the First Battle of Tarain (1191) Prithviraj had won — the second battle reversed the result. Answer: the Second Battle of Tarain, 1192.

Practice Questions

Q1. At which Indus Valley site was there a dock (port)?

A. Mohenjo-daro
B. Lothal
C. Kalibangan
D. Dholavira

Q2. In which mandala of the Rigveda is the Gayatri Mantra?

A. Mandala 1
B. Mandala 3
C. Mandala 7
D. Mandala 10

Q3. Where did the Buddha give his first sermon?

A. Bodh Gaya
B. Sarnath
C. Kushinagar
D. Rajagriha

Q4. Who was the first Tirthankara of Jainism?

A. Mahavir
B. Parshvanatha
C. Rishabhdeva
D. Neminatha

Q5. The Kalinga war is described in which edict of Ashoka?

A. Major Rock Edict VII
B. Major Rock Edict XIII
C. Minor Rock Edict I
D. Pillar Edict VII

Q6. Fa-Hien came to India during the reign of whom?

A. Samudragupta
B. Chandragupta II
C. Harshavardhan
D. Ashoka

Q7. The iron pillar of Delhi (Mehrauli) belongs to which period?

A. Maurya
B. Gupta
C. Kushana
D. Mughal

Q8. In which year was the Second Battle of Tarain fought?

A. 1191
B. 1192
C. 1194
D. 1206

Q9. Who implemented the Doctrine of Lapse?

A. Lord Wellesley
B. Lord Dalhousie
C. Lord Cornwallis
D. Lord Hastings

Q10. Where was the Permanent Settlement of 1793 implemented?

A. Madras
B. Bombay
C. Bengal
D. Punjab

Answer Key

Q1. (B) Lothal — Lothal (Gujarat) had a dock for sea trade; Mohenjo-daro had the Great Bath, Kalibangan had fire altars and Dholavira had reservoirs.

Q2. (B) Mandala 3 — The Gayatri Mantra is in Mandala 3 of the Rigveda, composer Vishwamitra; the Purusha Sukta is in Mandala 10.

Q3. (B) Sarnath — The first sermon (Dharmachakra Pravartan) was at Sarnath; enlightenment was at Bodh Gaya and Mahaparinirvana at Kushinagar.

Q4. (C) Rishabhdeva — Rishabhdeva was the first Tirthankara; Mahavir was the 24th and last Tirthankara.

Q5. (B) Major Rock Edict XIII — Edict XIII describes the Kalinga war (261 BCE) and Ashoka's remorse.

Q6. (B) Chandragupta II — Fa-Hien came during the reign of Chandragupta II (Vikramaditya); Hiuen Tsang came during Harshavardhan's reign.

Q7. (B) Gupta — The Mehrauli iron pillar is from the Gupta period (reign of Chandragupta II).

Q8. (B) 1192 — The Second Battle of Tarain, 1192: Ghori defeated Prithviraj Chauhan; in the First Battle (1191) Prithviraj had won.

Q9. (B) Lord Dalhousie — The Doctrine of Lapse was Dalhousie's policy; the Subsidiary Alliance was Wellesley's.

Q10. (C) Bengal — The Permanent Settlement (1793) was implemented by Cornwallis in Bengal, Bihar and Orissa.

Chapter 2: Indian National Movement

Exam weightage 5 marks • This chapter has 10 practice questions

Keep the cause of a movement, its beginning, its decisive event and its result separate. Reaching Dandi and breaking the Salt Law were two events on two different dates.

Syllabus Summary

Early years of the freedom movement • Swadeshi and Civil Disobedience Movements: role of Mahatma Gandhi and other leaders • Revolutionary movement and the rise of extremist nationalism • Legislative reforms and the Government of India Act, 1935 • Quit India Movement, Azad Hind Fauj and Netaji Subhas Chandra Bose

English topic guide · Early nationalism, Swadeshi, civil disobedience, revolutionary movements, legislative reform, Quit India and the Indian National Army.

Early Years (1885–1905)

The Indian National Congress was founded in 1885 (first session in Bombay, president W. C. Banerjee; A. O. Hume was its founder-secretary). The early Congress was moderate — it sought reforms through petitions, not independence. The Partition of Bengal (1905, Lord Curzon) started the Swadeshi Movement, and the extremists (Lal-Bal-Pal: Lala Lajpat Rai, Bal Gangadhar Tilak, Bipin Chandra Pal) emerged. In 1911 Bengal was reunited; in the same year the capital was shifted from Calcutta to Delhi.

Swadeshi and Civil Disobedience — Gandhi's Role

Gandhi returned from South Africa in 1915. His first mass movements were: Champaran (1917, indigo), Kheda (1918, revenue), and the Ahmedabad Mill Strike (1918). The Non-Cooperation Movement (1920–22) began after Jallianwala Bagh (13 April 1919, Amritsar; General Dyer) and the Rowlatt Act (1919). Gandhi withdrew it after the Chauri Chaura incident (4 February 1922). The Civil Disobedience Movement (1930) — the Dandi March began on 12 March 1930 from Sabarmati. Gandhi reached Dandi on 5 April and broke the Salt Law on 6 April. The Gandhi–Irwin Pact (1931) followed; Gandhi went to the Second Round Table Conference (1931) as the sole representative of the Congress. The Quit India Movement (1942) began on 8 August 1942 with the call "Do or Die". On the morning of 9 August, Gandhi, Nehru and other leaders were arrested; the movement continued without central leadership.

Revolutionary Movement and Extremism

Early revolutionaries: the Anushilan Samiti (Bengal) and Abhinav Bharat (V. D. Savarkar, Maharashtra). Bhagat Singh, Sukhdev and Rajguru were hanged on 23 March 1931 (Lahore Conspiracy Case / Saunders murder, 1928). Chandrashekhar Azad was killed in a police encounter in Allahabad (1931). Surya Sen led the Chittagong Armoury Raid (1930). Kakori Conspiracy (1925) — Ram Prasad Bismil, Ashfaqulla Khan, Roshan Singh and Rajendra Lahiri were hanged.

Constitutional Reforms and Self-Government

The Indian Councils Act, 1909 introduced separate electorates for Muslims. The Act of 1919 brought dyarchy in the provinces. Under the Government of India Act, 1935, provincial autonomy was implemented. The proposed All-India Federation and dyarchy at the Centre could not be implemented. The Simon Commission, appointed in 1927, had no Indian member. Lala Lajpat Rai, injured in a lathi charge during the protests against it, died in November 1928.

Quit India, Azad Hind Fauj and Netaji Subhas Chandra Bose

Subhas Chandra Bose formed the Forward Bloc (1939), escaped to Berlin (1941), reached Japan and took over the leadership of the Indian National Army (INA) in Singapore (1943). He gave the call "Give me blood, and I will give you freedom" and formed the Azad Hind Government in Singapore (21 October 1943). The INA's women's regiment was the Rani Jhansi Regiment (Captain Lakshmi Sahgal).

The INA trials at the Red Fort (1945–46) and the Naval Mutiny (1946) shook British confidence. The Cabinet Mission's political settlement did not hold, but its plan led to the formation of the Constituent Assembly; the Indian Independence Act (July 1947) created India and Pakistan; independence came on 15 August 1947.

Worked Examples

Example 01

Why did Gandhi withdraw the Non-Cooperation Movement? The Chauri Chaura incident (4 February 1922): a mob set fire to a police station in Gorakhpur district, in which 22 policemen were killed. Committed to non-violence, Gandhi withdrew the movement. Answer: Chauri Chaura, 1922.

Example 02

Which Act gave provincial autonomy and is called the basis of the Indian Constitution? The Government of India Act, 1935 — it gave autonomy to the provinces and provided the framework (and many provisions) of the 1950 Constitution. Answer: Government of India Act, 1935.

Practice Questions

Q1. In which year was the Indian National Congress founded?

A. 1883
B. 1885
C. 1905
D. 1920

Q2. Who announced the Partition of Bengal?

A. Lord Curzon
B. Lord Minto
C. Lord Hardinge
D. Lord Irwin

Q3. On which date did the Dandi March begin?

A. 12 March 1930
B. 5 April 1930
C. 12 March 1931
D. 8 August 1942

Q4. After which incident did Gandhi withdraw the Non-Cooperation Movement?

A. Jallianwala Bagh
B. Chauri Chaura
C. Kakori Conspiracy
D. Simon Commission

Q5. What did the Government of India Act, 1935 give?

A. Dyarchy in the provinces
B. Provincial autonomy
C. Separate electorates
D. Complete independence

Q6. On which day were Bhagat Singh, Sukhdev and Rajguru hanged?

A. 23 March 1930
B. 23 March 1931
C. 23 March 1932
D. 31 March 1931

Q7. In which year did the Kakori train action take place?

A. 1922
B. 1924
C. 1925
D. 1927

Q8. Who gave the call "Give me blood, and I will give you freedom"?

A. Bhagat Singh
B. Subhas Chandra Bose
C. Jawaharlal Nehru
D. Chandrashekhar Azad

Q9. What was the name of the Azad Hind Fauj's women's regiment?

A. Rani Jhansi Regiment
B. Azad Hind Regiment
C. Netaji Regiment
D. Lakshmibai Regiment

Q10. In which month and year was the Indian Independence Act passed?

A. 1946
B. July 1947
C. August 1947
D. January 1950

Answer Key

Q1. (B) 1885 — The Congress was founded in 1885; its first session was held in Bombay under the presidentship of W. C. Banerjee.

Q2. (A) Lord Curzon — Curzon partitioned Bengal in 1905; the partition was revoked in 1911.

Q3. (A) 12 March 1930 — The Dandi March began on 12 March 1930, and the Salt Law was broken on 6 April 1930.

Q4. (B) Chauri Chaura — After the incident of 4 February 1922, in which 22 policemen were killed, Gandhi withdrew the movement.

Q5. (B) Provincial autonomy — The 1935 Act gave autonomy to the provinces; dyarchy in the provinces came with the 1919 Act; separate electorates came with the 1909 Act.

Q6. (B) 23 March 1931 — The three revolutionaries were hanged on 23 March 1931 (Lahore Conspiracy Case).

Q7. (C) 1925 — The Kakori train robbery / conspiracy took place in 1925; Bismil, Ashfaqulla Khan and others were hanged.

Q8. (B) Subhas Chandra Bose — "Give me blood, and I will give you freedom" was Netaji's call.

Q9. (A) Rani Jhansi Regiment — The INA's women's regiment, commanded by Captain Lakshmi Sahgal.

Q10. (B) July 1947 — The Indian Independence Act was passed in July 1947; independence came on 15 August 1947.

Chapter 3: Geography

Exam weightage 5 marks • This chapter has 10 practice questions

Before looking for a place on the map, decide whether the question asks about height, direction, area or average rainfall. Changing one word can change the correct answer.

Syllabus Summary

Physical geography of India and the world • Rivers and river valleys • Groundwater resources • Mountains, hills and glaciers • Deserts and arid regions • Forests • Mineral resources (especially in India) • Political geography of India and the world • Climate and weather • Time zones • Demographic changes and migration

English topic guide · Physical and political geography, water and minerals, relief, climate and weather, time zones, population and migration.

Latitude, Longitude and Seasons

The Earth's axis of rotation is tilted about 23.4° from the perpendicular drawn to the plane of its orbit. During its revolution, this changes the angle of the sun's rays and the length of the day in both hemispheres.

The Equator is at 0°. The Tropic of Cancer passes through Gujarat, Rajasthan, Madhya Pradesh, Chhattisgarh, Jharkhand, West Bengal, Tripura and Mizoram in India.

Mainland India extends from 8°4′ N to 37°6′ N latitude and from 68°7′ E to 97°25′ E longitude. The island territory extends further south. The Standard Meridian is 82°30′ E.

Mountains and Glaciers

The main parallel ranges of the Himalayas, from north to south, are the Himadri, the Himachal and the Shivalik. The summit of Everest is on the Nepal–China border. Kanchenjunga (8,586 metres) is on the Sikkim–Nepal border. K2 is in the Karakoram. The Siachen Glacier is in the Karakoram and the Gangotri Glacier is in Uttarakhand. The Bhagirathi originates from Gaumukh of the Gangotri Glacier. The Western Ghats are relatively more continuous. Anaimudi is the highest peak of South India. The highest peak of the Aravalli is Guru Shikhar.

Rivers and Their Basins

Many major streams of the Indus, Ganga and Brahmaputra systems are snow-fed. At Devprayag, from the confluence of the Bhagirathi and the Alaknanda onwards, the river is called the Ganga. The Yamuna joins it at Prayagraj. The Brahmaputra is called the Tsangpo in Tibet and the Siang / Dihang in Arunachal Pradesh. The Godavari is the longest river of peninsular India. The Godavari, Krishna, Mahanadi and Kaveri flow eastwards. The Narmada and the Tapti fall into the Arabian Sea.

In a historical context, the Indus Waters Treaty of 1960 made separate arrangements for the use of the waters of the eastern rivers (Ravi, Beas, Sutlej) and the western rivers (Indus, Jhelum, Chenab).

Groundwater, Deserts and Arid Regions

India is the world's largest user of groundwater; the deepest depletion is in Punjab, Haryana, Delhi and western Uttar Pradesh. The Central Ground Water Authority regulates extraction. The Thar Desert (Rajasthan) is India's only hot desert; the cold desert is Ladakh (Leh). The Rann of Kutch in Gujarat is a salt marsh.

Forests and Forest Cover

In the India State of Forest Report 2023, forest cover was 21.76% of the country's geographical area. The figures for forest cover and for the combined forest and tree cover are different. Evergreen forests are found in the Western Ghats and the North-East. The tidal region of the Sundarbans is famous for mangroves, and the Gir region of Gujarat for Asiatic lions.

Mineral Resources (Especially in India)

Coal: Jharia (Jharkhand) is the main coking-coal region; India is the world's second-largest coal producer. Iron ore: Odisha (Keonjhar), Jharkhand (Singhbhum), Chhattisgarh (Bailadila), Karnataka (Ballari). Bauxite: Odisha (Koraput). Mica: Jharkhand (Koderma). Petroleum: Bombay High (offshore), Assam (Digboi — the oldest refinery), Gujarat (Ankleshwar).

Political Geography — India and the World

India has 28 States and 8 Union Territories (after the 2019 reorganisation of Jammu and Kashmir and the 2020 merger of Dadra and Nagar Haveli with Daman and Diu). The largest State by area is Rajasthan; the smallest is Goa. Uttar Pradesh is the most populous State. India shares a land border with 7 countries: Pakistan, Afghanistan, China, Nepal, Bhutan, Bangladesh and Myanmar. The longest border is with Bangladesh (4,096 km); the shortest is with Afghanistan (106 km).

Climate and Weather

India's climate is tropical monsoon. The South-West Monsoon (June–September) brings most of the rainfall; it divides into the Arabian Sea branch and the Bay of Bengal branch. Mawsynram in Meghalaya is famous for its long-term average annual rainfall. The ranking for a particular year may differ. The North-East (retreating) Monsoon (October–December) gives rainfall to Tamil Nadu. Western Disturbances bring winter rainfall to north-west India.

Time Zones

A rotation of 360° takes about 24 hours, so in the ideal model a difference of 15° longitude equals one hour. Real time zones bend according to administrative boundaries. India follows UTC+5:30 and Nepal UTC+5:45.

The International Date Line follows approximately 180° longitude in the Pacific Ocean.

Population and Migration

In the 2011 Census, India's population was about 121 crore. In the same Census, the sex ratio was 943 females per 1,000 males. Among the States, Uttar Pradesh had the highest population and Sikkim the lowest. Moving from one village to another is rural–rural migration. Employment, education and family reasons affect migration. A natural disaster or lack of employment can compel people to leave their place of residence.

Worked Examples

Example 01

Through how many States does the Tropic of Cancer pass? Eight: Gujarat, Rajasthan, Madhya Pradesh, Chhattisgarh, Jharkhand, West Bengal, Tripura and Mizoram. Answer: 8 States.

Example 02

Which river is called the "Dakshin Ganga"? The Godavari — the longest peninsular river (1,465 km), flowing eastwards into the Bay of Bengal. Answer: Godavari.

Practice Questions

Q1. What is the longitude of India's Standard Meridian?

A. 80°30′ East
B. 82°30′ East
C. 84°30′ East
D. 78°30′ East

Q2. Which 8,586-metre peak is situated on the Sikkim–Nepal border?

A. Mount Everest
B. K2
C. Kanchenjunga
D. Nanda Devi

Q3. Which is the longest river of peninsular India?

A. Krishna
B. Kaveri
C. Godavari
D. Mahanadi

Q4. Where is the Siachen Glacier situated?

A. Pir Panjal
B. Karakoram
C. Zanskar
D. Ladakh Range

Q5. In which State is the Jharia coalfield?

A. Odisha
B. Chhattisgarh
C. Jharkhand
D. West Bengal

Q6. Which place in Meghalaya is famous for the highest average annual rainfall in the world?

A. Cherrapunji
B. Mawsynram
C. Agumbe
D. Mahabaleshwar

Q7. With which country does India share its longest land border?

A. Pakistan
B. China
C. Bangladesh
D. Nepal

Q8. The International Date Line runs approximately along which longitude?

A. 0° longitude
B. 90° East
C. 180° longitude
D. 82°30′ East

Q9. The Sundarbans are famous for what?

A. Asiatic lion
B. Mangrove forests
C. One-horned rhinoceros
D. Teak forests

Q10. Which of the following rivers flows westwards into the Arabian Sea?

A. Godavari
B. Krishna
C. Narmada
D. Kaveri

Answer Key

Q1. (B) 82°30′ East — The Standard Meridian passes near Mirzapur (U.P.); IST = GMT +5:30.

Q2. (C) Kanchenjunga — Kanchenjunga is on the Sikkim–Nepal border. The summit of Everest is on the Nepal–China border.

Q3. (C) Godavari — The Godavari (1,465 km) is the longest peninsular river, called the "Dakshin Ganga".

Q4. (B) Karakoram — The Siachen Glacier is in the Karakoram range; it is the world's highest battlefield.

Q5. (C) Jharkhand — Jharia is in Jharkhand and is famous for coking coal.

Q6. (B) Mawsynram — Mawsynram is famous for its long-term average annual rainfall.

Q7. (C) Bangladesh — The India–Bangladesh border (4,096 km) is India's longest land border.

Q8. (C) 180° longitude — The International Date Line runs in the Pacific Ocean along approximately 180°.

Q9. (B) Mangrove forests — The Sundarbans (West Bengal) have India's densest mangroves; Gir has Asiatic lions and Kaziranga the one-horned rhinoceros.

Q10. (C) Narmada — The Narmada (and the Tapti) flow westwards into the Arabian Sea; the Godavari, Krishna and Kaveri flow eastwards into the Bay of Bengal.

Chapter 4: Indian Economy

Exam weightage 5 marks • This chapter has 10 practice questions

Read the changes in the Indian economy in three phases. First planned development, then the reforms of 1991, and after that the changes linked to tax, banking, agriculture and labour.

Syllabus Summary

Indian economy (1947 to 1991) • Planning Commission and Five Year Plans • Development of the mixed economy: private and public sectors • Green Revolution • Milk development and Operation Flood • Nationalisation of banks and reforms • Economic reforms in 1991 and the economy thereafter • Economic reforms after 2014: agricultural reforms • Infrastructure reforms • Labour reforms • Economic reforms • GST

English topic guide · Planning and the mixed economy, agriculture, dairy, banking, economic reforms, infrastructure, labour and GST.

Mixed Economy and Plans

After Independence, the public sector invested in heavy industry and basic infrastructure. The private sector played a role in production, trade and services. The Planning Commission was formed in 1950. The First Five Year Plan (1951–56) emphasised agriculture and irrigation. The Second (1956–61) emphasised heavy industries under the Mahalanobis model. After the Third Plan (1961–66), Annual Plans ran in 1966–69. The Fourth Plan ran in 1969–74. The slogan "Garibi Hatao" became popular in the 1971 election. In the Fifth Plan, poverty eradication and self-reliance were the main objectives. The Twelfth Plan (2012–17) was the last Five Year Plan. NITI Aayog was formed on 1 January 2015.

Green Revolution and Operation Flood

In the Green Revolution (mid-1960s), high-yielding varieties (HYV) of wheat and rice, fertilisers and irrigation were used — in India it was led by M. S. Swaminathan, with Norman Borlaug's contribution with the Mexican wheat varieties. Punjab, Haryana and western Uttar Pradesh benefited the most; foodgrain production rose rapidly and India became self-sufficient in foodgrains.

Operation Flood (1970) — the White Revolution — was led by Verghese Kurien with the National Dairy Development Board (NDDB) and the Amul cooperative model (Anand, Gujarat). India became the world's largest milk producer.

Nationalisation of Banks and Reforms

In 1969, 14 large banks were nationalised (Indira Gandhi government); in 1980, 6 more banks were nationalised. The Reserve Bank of India (RBI), established in 1935 and nationalised in 1949, is the central bank — it issues currency (₹1 notes and coins are issued by the Finance Ministry) and controls the repo rate and the Cash Reserve Ratio (CRR). The RBI's CPI inflation target is 4% (with a tolerance band of ±2 percentage points).

Economic Reforms of 1991

The 1991 balance-of-payments crisis forced the LPG reforms — Liberalisation, Privatisation, Globalisation — under Prime Minister P. V. Narasimha Rao and Finance Minister Dr. Manmohan Singh. The rupee was devalued, industrial licensing ended (except for a few strategic sectors) and foreign investment was

opened up. The New Industrial Policy (1991) reduced the industries reserved for the public sector; the SEBI Act (1992) gave statutory powers to the capital-market regulator.

GST and Economic Reforms

GST was implemented on 1 July 2017. It brought many Central and State indirect taxes into a shared framework. The GST Council is chaired by the Union Finance Minister. From 22 September 2025, revised rates came into force for most of the related goods and services. The main rates were 5% and 18%. There was a separate rate for some special goods and a separate transition date for some tobacco products. For the current rate of any item, see its separate notification. The Jan Dhan Yojana emphasised access to bank accounts. The Insolvency and Bankruptcy Code, 2016 gave a time-bound resolution process. PM-KISAN gives income support to eligible farmer families.

Agriculture and Labour Reforms

The e-NAM pilot, launched on 14 April 2016, opened the way for electronic trading in agricultural mandis. It makes bidding and comparison of prices easier. The four Labour Codes relate to wages, industrial relations, social security, and workplace safety and working conditions. The Centre notified their coming into force from 21 November 2025.

Worked Examples

Example 01

In which Plan were poverty eradication and self-reliance the main objectives? In the Fifth Five Year Plan. The slogan "Garibi Hatao" had already become popular in the 1971 election before it.

Example 02

What is Operation Flood related to? Operation Flood (1970) is the White Revolution — related to milk production, led by Verghese Kurien. Answer: Milk production.

Practice Questions

Q1. In which year was the Planning Commission established?

A. 1947
B. 1950
C. 1951
D. 1956

Q2. Which sector was given priority in the Second Five Year Plan?

A. Agriculture
B. Heavy industry
C. Poverty eradication
D. Employment

Q3. What is Operation Flood related to?

A. Wheat production
B. Milk production
C. Fish production
D. Irrigation

Q4. How many banks were nationalised in 1969?

A. 6
B. 10
C. 14
D. 20

Q5. In the context of the 1991 economic reforms, what does LPG stand for?

A. Liberalisation, Privatisation, Globalisation
B. Liquidity, Planning, Growth
C. Labour, Production, Goods
D. Liberalisation, Planning, Governance

Q6. When was the Goods and Services Tax (GST) implemented in India?

A. 1 July 2016
B. 1 July 2017
C. 1 January 2017
D. 8 November 2016

Q7. In which year did NITI Aayog replace the Planning Commission?

A. 2014
B. 2015
C. 2016
D. 2017

Q8. Poverty eradication and self-reliance were the main objectives of which Five Year Plan?

A. Third Plan
B. Fourth Plan
C. Fifth Plan
D. Sixth Plan

Q9. What is the central target for CPI-based inflation for the period April 2026 to March 2031?

A. 2%
B. 4%
C. 6%
D. 8%

Q10. Verghese Kurien is associated with which revolution?

A. Green Revolution
B. White Revolution
C. Blue Revolution
D. Yellow Revolution

Answer Key

Q1. (B) 1950 — The Planning Commission was formed in 1950; the First Plan ran in 1951–56.

Q2. (B) Heavy industry — The Second Plan (Mahalanobis model) focused on heavy industry; the First Plan focused on agriculture.

Q3. (B) Milk production — Operation Flood (1970) is the White Revolution in the milk sector, led by Verghese Kurien.

Q4. (C) 14 — In 1969, 14 banks were nationalised; in 1980, 6 more banks were nationalised.

Q5. (A) Liberalisation, Privatisation, Globalisation — The 1991 reforms took place under Rao and Manmohan Singh.

Q6. (B) 1 July 2017 — GST was implemented on 1 July 2017 ("One Nation, One Tax").

Q7. (B) 2015 — NITI Aayog was formed on 1 January 2015, replacing the Planning Commission.

Q8. (C) Fifth Plan — Keep these objectives of the Fifth Plan separate from the origin of the 1971 election slogan.

Q9. (B) 4% — The RBI's CPI inflation target is 4% (with a tolerance band of ±2 percentage points).

Q10. (B) White Revolution — Verghese Kurien led Operation Flood (White Revolution); M. S. Swaminathan is associated with the Green Revolution.

Chapter 5: Indian Constitution and Public Administration

Exam weightage 5 marks • This chapter has 10 practice questions

When studying the Constitution, keep the institution, its power and the related Article together. The court that enforces a right and the House that makes law on a policy play different roles.

Syllabus Summary

Indian Constitution • Salient features of the Indian Constitution • Directive Principles of State Policy • Fundamental Rights and Duties • Parliamentary system • Federal system, Union and Union Territories, Centre–State relations • Judicial structure — Supreme Court, High Courts • District administration • Local bodies and Panchayati Raj institutions

English topic guide · Constitutional features, rights and duties, Directive Principles, Parliament, federalism, courts, district and local administration.

The Indian Constitution — Salient Features

The Constituent Assembly adopted the Constitution on 26 November 1949; it came into force on 26 January 1950. Dr. Rajendra Prasad was the President of the Constituent Assembly; Dr. B. R. Ambedkar was the Chairman of the Drafting Committee.

The Constitution of India is the longest written constitution in the world — in its original form, 395 Articles, 22 Parts and 8 Schedules. It is federal in structure with a unitary bias, has a parliamentary system of government, and provides Fundamental Rights, Directive Principles of State Policy and Fundamental Duties.

The Preamble describes India as a Sovereign, Socialist, Secular, Democratic Republic. The words "Socialist" and "Secular" were added by the 42nd Amendment (1976).

Fundamental Rights and Duties

Fundamental Rights (Part III, Articles 12–35): Right to Equality (14–18), Right to Freedom (19–22), Right against Exploitation (23–24), Right to Freedom of Religion (25–28), Cultural and Educational Rights (29–30), Right to Constitutional Remedies (Article 32) — Ambedkar called it the "heart and soul" of the Constitution.

Writs (Articles 32 and 226): Habeas Corpus — "produce the person" (against unlawful detention); Mandamus — "we command"; Certiorari; Quo Warranto; Prohibition.

Directive Principles of State Policy (Part IV, Articles 36–51): Article 44 directs the State to secure a Uniform Civil Code (UCC); Article 40 directs the organisation of village panchayats; Article 48 directs the prohibition of cow slaughter.

Fundamental Duties (Part IV-A, Article 51A) were added by the 42nd Amendment (1976) — originally 10, now 11 (the duty of education was added by the 86th Amendment, 2002).

Parliamentary System and the Central Government

India has a parliamentary system of government: the President is the nominal head, while real power lies with the Council of Ministers headed by the Prime Minister. Parliament consists of the President + Lok Sabha + Rajya Sabha.

The maximum strength of the Lok Sabha is 550 (530 from States + 20 from Union Territories); the present strength is 543. The 2 nominated Anglo-Indian seats (which made the old maximum 552) were abolished by the 104th Amendment, 2019. The maximum strength of the Rajya Sabha is 250 (present 245).

The Election Commission is constituted under Article 324.

Seventh Schedule

The Union List includes subjects such as defence, foreign policy and railways. The State List includes police, public health and agriculture. The Concurrent List includes education, forests and marriage.

The 42nd Amendment transferred education from the State List to the Concurrent List. Both Parliament and the State Legislatures can make laws on Concurrent subjects. Residuary legislative power lies with Parliament.

Federal System, Union and Union Territories, Centre–State Relations

India is a "Union of States" (Article 1) — a federal structure with a unitary bias. Powers are divided through the Seventh Schedule (Union, State and Concurrent Lists); residuary powers lie with the Union.

The Finance Commission (Article 280) recommends the sharing of taxes between the Centre and the States. The Inter-State Council (Article 263) and the GST Council (Article 279A) are the main bodies for Centre–State coordination.

Supreme Court and High Courts

Article 124 relates to the Supreme Court. According to Department of Justice details dated 1 November 2026, its sanctioned strength was 38 including the Chief Justice, and its working strength was 37. These are different measures.

Read Articles 214 and 231 together. There is provision for a High Court for States, and one court can be shared by more than one State. Punjab and Haryana are an example. The Calcutta, Bombay and Madras High Courts were established in 1862.

State, District and Local Government

The State executive comprises the Governor and the Council of Ministers headed by the Chief Minister. The State Legislature comprises the Governor and the Legislative Assembly, and where constituted, the Legislative Council. The District Magistrate relates to administration and the District Judge to the judiciary.

The 73rd Amendment gave panchayats constitutional status in Part IX and the 74th gave urban local bodies status in Part IX-A. Panchayats have village, intermediate and district levels. Under Article 243B(2), in a State with a population of up to 20 lakh, constituting an intermediate panchayat is optional.

Worked Examples

Example 01

When did the Constitution come into force? The Constitution was adopted on 26 November 1949 and came into force on 26 January 1950. Answer: 26 January 1950.

Example 02

In which Article is the Right to Constitutional Remedies? Article 32 — Ambedkar called it the "heart and soul" of the Constitution. Answer: Article 32.

Practice Questions

Q1. On which date did the Constitution of India come into force?

A. 26 November 1949
B. 26 January 1950
C. 15 August 1947
D. 9 December 1946

Q2. Who was the Chairman of the Drafting Committee of the Constituent Assembly?

A. Dr. Rajendra Prasad
B. Dr. B. R. Ambedkar
C. Jawaharlal Nehru
D. Sardar Patel

Q3. In which Article is the Right to Constitutional Remedies?

A. Article 14
B. Article 19
C. Article 21
D. Article 32

Q4. By which Amendment were the words "Socialist" and "Secular" added to the Preamble?

A. 42nd Amendment
B. 44th Amendment
C. 52nd Amendment
D. 86th Amendment

Q5. In which Article is the Uniform Civil Code?

A. Article 40
B. Article 44
C. Article 48
D. Article 51

Q6. According to Article 81 of the Constitution, what is the maximum number of elected members the Lok Sabha can have?

A. 543
B. 545
C. 550
D. 552

Q7. The 73rd Amendment is related to what?

A. Panchayati Raj
B. Urban local bodies
C. Fundamental Duties
D. Anti-defection

Q8. Which writ literally means "produce the person"?

A. Mandamus
B. Habeas Corpus
C. Certiorari
D. Quo Warranto

Q9. In which list of the Seventh Schedule is education?

A. Union List
B. State List
C. Concurrent List
D. Residuary powers

Q10. Under which Article is the Finance Commission constituted?

A. Article 263
B. Article 280
C. Article 324
D. Article 352

Answer Key

Q1. (B) 26 January 1950 — The Constitution was adopted on 26 November 1949 and came into force on 26 January 1950.

Q2. (B) Dr. B. R. Ambedkar — Ambedkar was Chairman of the Drafting Committee; Rajendra Prasad was President of the Constituent Assembly.

Q3. (D) Article 32 — The Right to Constitutional Remedies; Ambedkar called it the "heart and soul" of the Constitution.

Q4. (A) 42nd Amendment — By the 42nd Amendment (1976), "Socialist" and "Secular" were added to the Preamble.

Q5. (B) Article 44 — Article 44 (Directive Principles) directs the State to secure a Uniform Civil Code.

Q6. (C) 550 — The maximum strength is 550 (530 + 20); the present strength is 543. The 2 nominated Anglo-Indian seats (which made the old maximum 552) were abolished by the 104th Amendment, 2019.

Q7. (A) Panchayati Raj — The 73rd Amendment (1992) gave Panchayati Raj constitutional status; the 74th Amendment is for urban local bodies.

Q8. (B) Habeas Corpus — "Produce the person" — the writ against unlawful detention.

Q9. (C) Concurrent List — Education is in the Concurrent List (moved from the State List by the 42nd Amendment).

Q10. (B) Article 280 — The Finance Commission is formed under Article 280; the Inter-State Council is under Article 263.

Chapter 6: General Science

Exam weightage 5 marks • This chapter has 10 practice questions

Before memorising an answer, identify the unit, the substance or the biological component. The units of energy and power are different. Likewise, the compatibility rules for blood cells and for plasma are different.

Syllabus Summary

Elementary physics • Elementary chemistry • Elementary biology

English topic guide · Elementary physics, chemistry and biology.

Physics

The SI unit of power is the watt (1 watt = 1 joule/second); the unit of energy is the joule; the unit of force is the newton; the unit of potential difference is the volt.

The acceleration due to gravity on Earth, g, is ≈ 9.8 m/s^2; the escape velocity is 11.2 km/s.

Myopia (short sight) is corrected with a concave lens (diverging lens); hypermetropia (long sight) is corrected with a convex lens. The speed of light in vacuum is 3×10^8 m/s.

Ohm's law: V = IR. The speed of sound in air is about 343 m/s (at 20°C; 332 m/s at 0°C).

Chemistry

The chemical formula of baking soda is $NaHCO_3$ (sodium bicarbonate); common salt is NaCl; washing soda is $Na_2CO_3 \cdot 10H_2O$; lime is CaO.

Laughing gas is nitrous oxide (N_2O); dry ice is solid carbon dioxide. The formula of water is H_2O; sulphuric acid is H_2SO_4.

Acids turn blue litmus red; bases turn red litmus blue. At 25°C, pH 7 is neutral; below 7 is acidic, above 7 is alkaline.

Cell and Health

Most ATP is produced in the mitochondria during cellular respiration. The nucleus holds the genetic material, ribosomes make proteins, and chloroplasts carry out photosynthesis.

In the ABO and Rh classification of red blood cells, O negative (O−) is called the universal donor and AB positive (AB+) the universal recipient. The red cells of group O carry neither A nor B antigens. For plasma, the direction of compatibility is different.

Deficiency of vitamin D can cause rickets in children, of C scurvy, of B_1 beri-beri and of A night blindness. The parasite of malaria is Plasmodium, transmitted by the infected female Anopheles mosquito.

Fleming discovered penicillin in 1928. Edward Jenner is associated with the smallpox vaccine, Louis Pasteur with pasteurisation and Robert Koch with identifying the tuberculosis bacterium.

Worked Examples

Example 01

What is the SI unit of power? Power is measured in watts (1 watt = 1 joule/second); the joule is the unit of energy. Answer: Watt.

Example 02

What is the chemical formula of baking soda? Baking soda is sodium bicarbonate — $NaHCO_3$. NaCl is common salt and Na_2CO_3 is anhydrous sodium carbonate. Washing soda is $Na_2CO_3 \cdot 10H_2O$. Answer: $NaHCO_3$.

Practice Questions

Q1. What is the SI unit of power?

A. Joule
B. Watt
C. Newton
D. Volt

Q2. What is the value of the acceleration due to gravity (g) near the Earth's surface, approximately?

A. 8.9 m/s^2
B. 9.8 m/s^2
C. 10.8 m/s^2
D. 11.2 m/s^2

Q3. Which type of lens is used to correct myopia (short sight)?

A. Convex lens
B. Concave lens
C. Cylindrical lens
D. Bifocal lens

Q4. What is the chemical formula of baking soda?

A. NaCl
B. Na_2CO_3
C. $NaHCO_3$
D. CaO

Q5. Which gas is called laughing gas?

A. Nitrous oxide
B. Carbon dioxide
C. Carbon monoxide
D. Nitrogen

Q6. Which organelle of the cell is called its powerhouse?

A. Nucleus
B. Ribosome
C. Mitochondria
D. Golgi body

Q7. In the ABO and Rh classification, who is the universal donor of red blood cells?

A. A+
B. B−
C. AB+
D. O−

Q8. Which disease can be caused in children by deficiency of vitamin D?

A. Scurvy
B. Beri-beri
C. Rickets
D. Night blindness

Q9. Malaria is caused by what?

A. Bacteria
B. Virus
C. Protozoa
D. Fungus

Q10. Who discovered penicillin?

A. Louis Pasteur
B. Alexander Fleming
C. Edward Jenner
D. Robert Koch

Answer Key

Q1. (B) Watt — Power is measured in watts (1 watt = 1 joule/second); the joule is the unit of energy.

Q2. (B) 9.8 m/s² — On Earth, g ≈ 9.8 m/s^2; 11.2 km/s is the escape velocity.

Q3. (B) Concave lens — Myopia is corrected with a concave (diverging) lens; hypermetropia with a convex lens.

Q4. (C) $NaHCO_3$ — Baking soda is sodium bicarbonate; NaCl is common salt and Na_2CO_3 is anhydrous sodium carbonate. Washing soda is $Na_2CO_3 \cdot 10H_2O$.

Q5. (A) Nitrous oxide — Laughing gas is N_2O; dry ice is solid carbon dioxide.

Q6. (C) Mitochondria — Most ATP is made in the mitochondria through cellular respiration. That is why they are called the powerhouse of the cell.

Q7. (D) O− — O− red cells carry no A, B or Rh(D) antigens. AB+ is called the universal recipient of red cells.

Q8. (C) Rickets — Deficiency of vitamin D causes rickets in children; scurvy is from vitamin C and beri-beri from vitamin B_1.

Q9. (C) Protozoa — Malaria is caused by the Plasmodium protozoan, spread by the female Anopheles mosquito.

Q10. (B) Alexander Fleming — Fleming discovered penicillin in 1928; Pasteur developed pasteurisation and the rabies vaccine.

Chapter 7: Elementary Arithmetic

Exam weightage 5 marks • This chapter has 10 practice questions

First decide what is to be found and what the unit will be. Before multiplying, it is also a useful check to estimate the answer by taking ten percent, a half or double.

Syllabus Summary

Whole numbers, fractions and decimals • Percentages • Simple arithmetical equations • Squares and square roots • Powers and exponents • Averages

English topic guide · Whole numbers, fractions, decimals, percentages, equations, squares, roots, exponents and averages.

Numbers, Fractions and Operations

Whole numbers are 0, 1, 2, ... For a fraction a/b, b ≠ 0. A terminating decimal can be written as a fraction with a denominator such as 10, 100 or 1000. 0.25 = 1/4, while 1/3 = 0.333... is a recurring decimal.

After brackets and powers, do multiplication and division with equal priority from left to right. Then do addition and subtraction also from left to right. 12 − 4 + 2 = 10.

The highest common factor (HCF) of positive integers is the largest common factor. The least common multiple (LCM) is the smallest positive common multiple. For two positive integers, HCF × LCM = their product.

Percentages

Percent means "per hundred". To find x% of an amount: (x ÷ 100) × amount. To convert a fraction to a percentage, multiply by 100. Increase / decrease: new value = old value × (1 ± rate/100). Successive changes of +a% and −a% give a net loss of $a^2/100\%$.

Simple Equations

To keep the equality, do the same operation on both sides. In x + a = b, subtracting a from both sides gives x = b − a. In ax = b, x = b/a only when a ≠ 0. If both a and b are zero, every x satisfies the equation. If a = 0 and b ≠ 0, there is no solution.

Squares and Square Roots

Square = number × itself: $12^2 = 144$, $15^2 = 225$, $20^2 = 400$, $25^2 = 625$. Square of a number ending in 5: e.g. 35^2 = (3 × 4) followed by 25 = 1225.

Square roots: √144 = 12, √225 = 15, √625 = 25. Perfect squares end in 0, 1, 4, 5, 6 or 9 — never in 2, 3, 7 or 8.

Laws of Exponents

When multiplying powers with the same base, the exponents add. Example: $2^3 \times 2^2 = 2^5 = 32$. When dividing powers of a non-zero base, the exponents subtract. $3^5 \div 3^2 = 3^3 = 27$.

$(2^3)^2 = 2^6$. Any non-zero base raised to the power zero is 1. A negative exponent means the reciprocal, e.g. $2^{-3} = 1/8$. A negative power of zero is not defined. √2 and √3 are irrational numbers.

Averages

Average = sum of all values ÷ number of values. If the average of n numbers is A, their sum is n × A. If one value is changed, the change in the sum = change in the average × n.

Worked Examples

Example 01

The average of 5 numbers is 27. One number, 45, is replaced by 15. What is the new average? Sum = 5 × 27 = 135. The sum decreases by 45 − 15 = 30, so the new sum is 105. New average = 105 ÷ 5 = 21. Answer: 21.

Example 02

What is the value of 35^2? By the "ending in 5" rule: 35^2 = (3 × 4) followed by 25 = 1225. Check: 35 × 35 = 1225. Answer: 1225.

Practice Questions

Q1. What is 15% of 240?

A. 30
B. 36
C. 42
D. 48

Q2. What is the least common multiple (LCM) of 12 and 18?

A. 36
B. 54
C. 72
D. 108

Q3. If x + 9 = 23, what is the value of x?

A. 12
B. 14
C. 16
D. 32

Q4. What is √625?

A. 15
B. 25
C. 35
D. 45

Q5. What is $2^3 \times 2^2$?

A. 2^5
B. 2^6
C. 2^1
D. 4^5

Q6. What is the average of 8, 12, 15, 20 and 25?

A. 15
B. 16
C. 17
D. 18

Q7. A number was first increased by 20% and then its new value was decreased by 20%. What is the total change compared with the original number?

A. No change
B. 4% increase
C. 4% decrease
D. 20% decrease

Q8. What is 3/4 as a percentage?

A. 34%
B. 43%
C. 75%
D. 80%

Q9. What is the highest common factor (HCF) of 24 and 36?

A. 6
B. 12
C. 18
D. 24

Q10. If 7x = 84, what is the value of x?

A. 10
B. 11
C. 12
D. 14

Answer Key

Q1. (B) 36 — 15% of 240 = (15 ÷ 100) × 240 = 36.

Q2. (A) 36 — Multiples of 12: 12, 24, 36...; multiples of 18: 18, 36...; the smallest common multiple is 36.

Q3. (B) 14 — x = 23 − 9 = 14.

Q4. (B) 25 — 25 × 25 = 625, so √625 = 25.

Q5. (A) 2^5 — $2^3 \times 2^2 = 2^{(3+2)} = 2^5 = 32$.

Q6. (B) 16 — Sum = 8 + 12 + 15 + 20 + 25 = 80; average = 80 ÷ 5 = 16.

Q7. (C) 4% decrease — Successive +20% and −20% give a net change of $-(20^2 \div 100)\% = -4\%$.

Q8. (C) 75% — 3/4 = 0.75 = 75%.

Q9. (B) 12 — Factors of 24: 1, 2, 3, 4, 6, 8, 12, 24; of 36: 1, 2, 3, 4, 6, 9, 12, 18, 36; the largest common factor is 12.

Q10. (C) 12 — x = 84 ÷ 7 = 12.

Chapter 8: General Hindi

Exam weightage 5 marks • This chapter has 10 practice questions

The sound of a word, its meaning and its function in a sentence are three different things. When identifying a synonym, look at the meaning; when choosing a verb form, look at the subject, the object and the postposition.

Syllabus Summary

Sandhi • Antonyms • Synonyms • One-word substitutions • Gender • Homophones (words that sound alike but differ in meaning) • Idioms and proverbs • Common errors • Authors and works (prose and poetry)

English topic guide · Sandhi, antonyms, synonyms, one-word substitutions, gender, similar-sounding words, idioms, usage, authors and works.

Note: this chapter tests Hindi itself, so Hindi words are given in Devanagari, with transliteration and a gloss in brackets.

Sandhi (संधि)

The change that occurs when two sounds combine. Three types: vowel sandhi (स्वर संधि) — देव + आलय = देवालय (dev + ālaya = devālaya); महा + आत्मा = महात्मा (mahā + ātmā = mahātmā); consonant sandhi (व्यंजन संधि) — उत् + चारण = उच्चारण (ut + chāraṇ = uchchāraṇ); सत् + जन = सज्जन (sat + jan = sajjan); visarga sandhi (विसर्ग संधि) — निः + चल = निश्चल (niḥ + chal = nishchal); दुः + ख = दुःख (duḥ + kha = duḥkh).

Antonyms (विलोम शब्द)

अच्छा–बुरा (achchhā–burā, good–bad), दिन–रात (din–rāt, day–night), सुख–दुःख (sukh–duḥkh, happiness–sorrow), जन्म–मृत्यु (janm–mṛityu, birth–death), आदि–अंत (ādi–ant, beginning–end), हार–जीत (hār–jīt, defeat–victory), अंधकार–प्रकाश (andhkār–prakāsh, darkness–light), सफल–असफल (saphal–asaphal, successful–unsuccessful), मित्र–शत्रु (mitra–shatru, friend–enemy), लाभ–हानि (lābh–hāni, profit–loss).

Synonyms (पर्यायवाची शब्द)

सूर्य (Sūrya, sun): रवि (Ravi), भानु (Bhānu), दिनकर (Dinkar), आदित्य (Āditya); चंद्रमा (Chandramā, moon): चाँद (Chānd), शशि (Shashi), इंदु (Indu), रजनीश (Rajnīsh); जल (Jal, water): पानी (Pānī), नीर (Nīr), तोय (Toy), वारि (Vāri); अग्नि (Agni, fire): आग (Āg), पावक (Pāvak), अनल (Anal), ज्वाला (Jvālā); पृथ्वी (Pṛithvī, earth): धरती (Dhartī), भूमि (Bhūmi), वसुधा (Vasudhā), धरा (Dharā); राजा (Rājā, king): नृप (Nṛip), भूप (Bhūp), महीप (Mahīp); फूल (Phūl, flower): पुष्प (Pushp), कुसुम (Kusum), सुमन (Suman).

One-Word Substitutions (वाक्यांशों के लिए एक शब्द)

जो पहले कभी न हुआ हो (that which has never happened before): अभूतपूर्व (Abhūtpūrv); जो कभी न मरे (one who never dies): अमर (Amar); जो सब कुछ जानता हो (one who knows everything): सर्वज्ञ (Sarvajñ); जो बहुत बोलता हो (one who talks a lot): वाचाल (Vāchāl); जहाँ पहुँचना कठिन हो (a place difficult to reach): दुर्गम (Durgam); जिसका कोई शत्रु न हो (one who has no enemy): अजातशत्रु (Ajātshatru).

Gender (लिंग)

Masculine (पुल्लिंग): लड़का (laṛkā, boy), घर (ghar, house), पेड़ (peṛ, tree), सूर्य (sūrya, sun); feminine (स्त्रीलिंग): लड़की (laṛkī, girl), किताब (kitāb, book), नदी (nadī, river), धरती (dhartī, earth). The gender of some words has to be remembered: 'दही' (dahī, curd) is masculine, 'चाय' (chāy, tea) is feminine, 'पानी' (pānī, water) is masculine, 'आग' (āg, fire) is feminine.

Homophones (समश्रुत भिन्नार्थक शब्द)

अनल–अनिल (Anal–Anil, fire–wind), कुल–कूल (Kul–Kūl, family/clan–bank/shore), अन्न–अन्य (Ann–Anya, grain–other), दिन–दीन (Din–Dīn, day–poor), परिणाम–परिमाण (Pariṇām–Parimāṇ, result–quantity), अवधि–अवधी (Avadhi–Avadhī, time period–dialect).

Idioms and Proverbs (मुहावरे–लोकोक्तियाँ)

अंधे की लाठी (Andhe kī lāṭhī, a blind man's stick): the only support; नौ दो ग्यारह होना (Nau do gyārah honā): to run away; आँखों का तारा होना (Ānkhon kā tārā honā): to be very dear; गागर में सागर भरना (Gāgar meṅ sāgar bharnā): to say a great deal in few words; ऊँट के मुँह में जीरा (Ūnṭ ke munh meṅ jīrā): far too little for the need; जैसी करनी वैसी भरनी (Jaisī karnī vaisī bharnī): as you sow, so shall you reap.

Spelling and verb agreement — the standard forms are विद्यालय (vidyālaya), आशीर्वाद (āshīrvād), कवयित्री (kavayitrī) and उज्ज्वल (ujjval). In a sentence, choose the verb form by looking at the subject, object and postposition. In "सीता जाती है" (Sītā jātī hai — Sita goes), जाती (jātī) agrees with सीता (Sītā). In "सीता ने पत्र लिखा" (Sītā ne patra likhā — Sita wrote a letter), लिखा (likhā) agrees with पत्र (patra, letter). In "सीता ने मीरा को बुलाया" (Sītā ne Mīrā ko bulāyā — Sita called Meera), with ने (ne) on the subject and को (ko) on the object, the verb takes the general masculine singular form बुलाया (bulāyā).

Authors and Works (लेखक और रचनाएँ)

प्रेमचंद (Premchand): गोदान (Godān), निर्मला (Nirmalā), गबन (Gaban), सेवासदन (Sevāsadan); जयशंकर प्रसाद (Jaishankar Prasad): कामायनी (Kāmāyanī), आँसू (Ānsū), चंद्रगुप्त (Chandragupt); महादेवी वर्मा (Mahadevi Verma): यामा (Yāmā), नीरजा (Nīrajā); सूर्यकांत त्रिपाठी 'निराला' (Suryakant Tripathi 'Nirala'): अनामिका (Anāmikā), परिमल (Parimal); तुलसीदास (Tulsidas): रामचरितमानस (Rāmcharitmānas), विनयपत्रिका (Vinaypatrikā); सूरदास (Surdas): सूरसागर (Sūrsāgar); कबीरदास (Kabirdas): बीजक (Bījak); मैथिलीशरण गुप्त (Maithilisharan Gupta): साकेत (Sāket), भारत-भारती (Bhārat-Bhāratī); हरिवंश राय बच्चन (Harivansh Rai Bachchan): मधुशाला (Madhushālā); रामधारी सिंह 'दिनकर' (Ramdhari Singh 'Dinkar'): उर्वशी (Urvashī), रश्मिरथी (Rashmirathī). Munshi Premchand is called 'उपन्यास सम्राट' (Upanyās Samrāṭ — Emperor of the Novel).

Worked Examples

Example 01

Which is NOT a synonym of 'सूर्य' (Sūrya, sun)? रवि (Ravi), भानु (Bhānu), दिनकर (Dinkar) — all three are synonyms of सूर्य (Sūrya). 'शशि' (Shashi) is a synonym of चंद्रमा (Chandramā, moon), not of सूर्य (Sūrya). Answer: शशि (Shashi).

Example 02

What does "अंधे की लाठी" (Andhe kī lāṭhī) mean? The only support in trouble. See its use in a sentence — "संकट में वह मेरे लिए अंधे की लाठी बन गया" (Sankaṭ meṅ vah mere liye andhe kī lāṭhī ban gayā — In trouble, he became my only support).

Practice Questions

Q1. What is the correct sandhi-vichchhed (split) of 'देवालय' (Devālaya)?

A. देव + आलय

B. देवा + लय

C. देव + अलय

D. दे + वालय

Q2. Which is the antonym of 'सुख' (Sukh, happiness)?

A. आनंद
B. दुःख
C. शांति
D. प्रसन्नता

Q3. Which word is a synonym of 'चंद्रमा' (Chandramā, moon)?

A. भानु
B. शशि
C. अनल
D. पावक

Q4. Which one word is suitable for 'जो कभी न मरे' (one who never dies)?

A. अजर
B. अमर
C. अजेय
D. अटल

Q5. What are the meanings of 'अनल' (Anal) and 'अनिल' (Anil) respectively?

A. Fire and wind
B. Wind and fire
C. Water and fire
D. Fire and water

Q6. What does the idiom 'गागर में सागर भरना' (Gāgar meṅ sāgar bharnā) mean?

A. To fill a lot of water
B. To say a great deal in few words
C. To cross the ocean
D. To break the pitcher

Q7. Which is the correct spelling?

A. विधालय
B. विद्यालय
C. विदयालय
D. विद्याल्य

Q8. Who wrote 'गोदान' (Godān)?

A. जयशंकर प्रसाद
B. प्रेमचंद
C. महादेवी वर्मा
D. निराला

Q9. Who is the author of 'रामचरितमानस' (Rāmcharitmānas)?

A. सूरदास
B. कबीरदास
C. तुलसीदास
D. मैथिलीशरण गुप्त

Q10. Who is the author of 'मधुशाला' (Madhushālā)?

A. हरिवंश राय बच्चन

B. रामधारी सिंह दिनकर

C. जयशंकर प्रसाद

D. सुमित्रानंदन पंत

Answer Key

Q1. (A) देव + आलय — देव + आलय = देवालय (Dev + Ālaya = Devālaya; vowel sandhi: अ + आ = आ).

Q2. (B) दुःख — The antonym of सुख (sukh, happiness) is दुःख (duḥkh, sorrow).

Q3. (B) शशि — शशि (Shashi) is a synonym of चंद्रमा (Chandramā, moon); भानु (Bhānu) is of the sun and पावक (Pāvak) of fire.

Q4. (B) अमर — 'जो कभी न मरे' (one who never dies) = अमर (Amar); 'अजर' (Ajar) means one who never grows old.

Q5. (A) Fire and wind — अनल (Anal) = fire, अनिल (Anil) = wind (homophones with different meanings).

Q6. (B) To say a great deal in few words — 'गागर में सागर भरना' (Gāgar meṅ sāgar bharnā) means to say a lot in few words.

Q7. (B) विद्यालय — The correct spelling is 'विद्यालय' (Vidyālaya).

Q8. (B) प्रेमचंद — 'गोदान' (Godān) is Premchand's famous novel.

Q9. (C) तुलसीदास — 'रामचरितमानस' (Rāmcharitmānas) is the work of Tulsidas.

Q10. (A) हरिवंश राय बच्चन — 'मधुशाला' (Madhushālā) is Harivansh Rai Bachchan's famous poetic work.

Chapter 9: General English

Exam weightage 5 marks • This chapter has 15 practice questions

"In the station" and "at the station" can both be correct. First understand the meaning, then choose the grammar. Finally, solve five questions on an original English passage.

Syllabus Summary

English grammar • Questions based on an unseen passage

English topic guide · English grammar and questions on an unseen passage.

Parts of Speech

A noun names a person, place, thing or idea. A pronoun can stand for a noun phrase. A verb expresses an action or state. An adjective describes a noun. An adverb can modify a verb (often reads), an adjective (very cold) or another adverb (quite slowly). Many adverbs end in -ly, but often, very and fast do not. Prepositions express relationships, conjunctions connect and interjections express reactions.

Tenses

Present simple ("He goes"), past simple ("He went"), future simple ("He will go"). Present continuous ("He is going"), past continuous ("He was going"), present perfect ("He has gone"). The past perfect ("He had gone") is used when one past action happened before another past action.

Subject–Verb Agreement

A singular subject takes a singular verb: "He goes"; "The boy plays". Plural subjects take plural verbs: "They go". "Each", "every", "either", "neither", "one" take singular verbs: "Each of the boys has a pen". "The number of students is large" but "A number of students are present".

Articles

"A" before a consonant sound ("a book", "a university" — "u" sounds like "yoo"), "an" before a vowel sound ("an apple", "an hour" — "h" is silent). "The" is used for specific things ("the sun", "the Ganga", "the Taj Mahal").

Prepositions

Use at for a point in time (at five), on for a day (on Monday) and in for a month (in July). For place, meaning matters: "Meet me at the station" treats it as a meeting point. "We waited in the station" places us inside it. Between can describe distinct relationships involving three or more parties, as in "an agreement between three countries". Among commonly describes membership or position within a group.

Active and Passive Voice

Active: "Ram wrote a letter." Passive: "A letter was written by Ram." Present simple passive: "is/are + past participle" ("The work is done"); past simple passive: "was/were + past participle" ("The work was done").

Direct and Reported Speech

If Rina said on Monday, "I will leave tomorrow," a report made later can read, "Rina said she would leave the next day." The reporting date determines words such as tomorrow and today. A statement that is still true can retain its original tense.

Commonly Confused Words

Their (possessive) / there (place) / they're (they are); your (possessive) / you're (you are); its (possessive) / it's (it is); lose (to misplace) / loose (not tight); affect (verb) / effect (noun); accept (to take) / except (excluding).

One-Word Substitution

A person who can use both hands: ambidextrous; one who knows everything: omniscient; one who is present everywhere: omnipresent; a place where birds are kept: aviary; a person who loves mankind: philanthropist.

Idioms

"Once in a blue moon" (very rarely); "To hit the nail on the head" (to say exactly the right thing); "A blessing in disguise" (a good thing that first seemed bad); "Break the ice" (to start a conversation); "By hook or by crook" (by any means).

Reading Comprehension

Read the passage twice: first for the main idea, then for the details. Answer only from the passage — do not use outside knowledge. For vocabulary questions, use the sentence around the word to guess its meaning.

Solved Examples

Solved Example 1: Choose the correct sentence: (A) Each of the students have submitted their work. (B) Each of the students has submitted his work. "Each" is singular, so it takes a singular verb — "has", not "have". Answer: (B).

Solved Example 2: Change to passive voice: "She wrote a letter." Past simple passive = "was/were + past participle": "A letter was written by her." Answer: A letter was written by her.

Practice Questions

Q1. Choose the correctly spelt word.

A. Occassion
B. Occasion
C. Ocassion
D. Occation

Q2. He has been living in Delhi _____ 2015.

A. for
B. from
C. since
D. by

Q3. Choose the word nearest in meaning to "Abundant".

A. Scarce
B. Plentiful
C. Rare
D. Limited

Q4. "Neither of the answers _____ correct."

A. are
B. is
C. were
D. have

Q5. Change to passive voice: "They completed the work."

A. The work is completed by them.
B. The work was completed by them.
C. The work has completed by them.
D. The work will be completed by them.

Q6. On Monday he said, "I will come tomorrow." On Friday, report his words using standard backshift.

A. He said that he will come tomorrow.
B. He said that he would come the next day.
C. He said that he comes tomorrow.
D. He said that he came yesterday.

Q7. Choose the one-word substitution for "a person who knows everything".

A. Omnipotent
B. Omnipresent
C. Omniscient
D. Omnivorous

Q8. What does "once in a blue moon" mean?

A. Every full moon
B. Very rarely
C. At night
D. Once a month

Q9. What is the plural of "child"?

A. Childs
B. Childes
C. Children
D. Childrens

Q10. Which sentence is correct?

A. The number of students are large.
B. A number of students is present.
C. The number of students is large.
D. A number of students was present yesterday.

Unseen Passage • Questions 11–15

When the village library opened on Sundays, the librarian expected more visitors in the afternoon. Instead, the room was full by nine in the morning. Many readers worked in the fields later in the day. The librarian moved the reading circle to eight thirty and kept a box near the door for returned books. Readers could

then leave on time for work. After a month, more books had been returned on time, although the library had bought no new books.

Q11. When did the library become full?

A. At noon
B. At eight
C. By nine in the morning
D. In the evening

Q12. Why did many readers prefer early visits?

A. They worked in the fields later.
B. The library closed at noon.
C. They wanted new books.
D. They taught the reading circle.

Q13. What does "then" refer to in "Readers could then leave on time"?

A. Before the library opened
B. After the changes were made
C. During field work
D. After a year

Q14. Which result is supported by the passage?

A. Book prices fell.
B. All farmers joined.
C. Afternoon attendance doubled.
D. More books were returned on time.

Q15. Which title best fits the whole passage?

A. Buying New Books
B. Learning to Farm
C. A Library Adapts to Its Readers
D. An Empty Sunday

Answer Key

Q1. (B) Occasion — The correct spelling is O-C-C-A-S-I-O-N.

Q2. (C) since — "Since" is used with a point of time (2015); "for" is used with a duration.

Q3. (B) Plentiful — "Abundant" means plentiful; "scarce" is its opposite.

Q4. (B) is — "Neither" takes a singular verb: "Neither of the answers is correct."

Q5. (B) The work was completed by them. — Simple past passive: "was completed".

Q6. (B) He said that he would come the next day. — The promise referred to Tuesday. A later report uses would and the next day to preserve that reference.

Q7. (C) Omniscient — One who knows everything; omnipotent = all-powerful, omnipresent = present everywhere.

Q8. (B) Very rarely — "Once in a blue moon" means very rarely.

Q9. (C) Children — The plural of "child" is "children".

Q10. (C) The number of students is large. — "The number of" is singular, so option (C) uses is. In the sentence about a number of students, was must change to were.

Q11. (C) By nine in the morning — The passage says the room was full by nine.

Q12. (A) They worked in the fields later. — Field work later in the day made the morning convenient.

Q13. (B) After the changes were made — Then points to the time after the earlier circle and return box were introduced.

Q14. (D) More books were returned on time. — The final sentence describes timely returns after one month.

Q15. (C) A Library Adapts to Its Readers — The librarian changed the schedule and return system after observing readers.

Chapter 10: Reasoning and Mental Ability

Exam weightage 5 marks • This chapter has 10 practice questions

Choose only the answer that follows from the given facts. Tracing the path of a relationship, changing letters one by one, and identifying the condition in a statement are three useful methods.

Syllabus Summary

Large and small • Order and ranking • Relation • Odd one out • Calendar and clock • Cause and effect • Coding–decoding (number and letter) • Deductive reasoning / statement analysis and decision

English topic guide · Comparison, order and rank, relationships, classification, calendars and clocks, cause and effect, coding and deductive reasoning.

Large and Small

Compare quantities: in a group of numbers, words or objects, which is the largest / smallest? First put the items in order, then choose the extreme value. Example: in 45, 67, 23, 89 the largest is 89 and the smallest is 23.

Order and Ranking

In a row: position from the left + position from the right = total + 1. If Ravi is 7th from the left and 12th from the right, there are 7 + 12 − 1 = 18 people in the row. In ranking, if A is above B and B is above C, then A is above C (transitivity).

Relation — Blood Relation

Draw a family tree: "A is the father of B" means A is one generation above B. "Mother's brother" = maternal uncle; "father's sister" = paternal aunt; "brother's son" = nephew; "sister's daughter" = niece. Work outwards from the named person, one relationship at a time.

Odd One Out

Find the rule that three items share and one breaks: for example, 2, 4, 6, 9 — 9 is odd while the rest are even. Or: apple, mango, banana, potato — potato is a vegetable, the rest are fruits.

Calendar and Clock

A common year has 365 days (52 weeks + 1 extra day); a leap year has 366 days (52 weeks + 2 extra days). A year divisible by 4 is a leap year (except a century year, which must be divisible by 400 — so 2000 was a leap year, 1900 was not). Two calendars match only when 1 January falls on the same weekday and the year type (common or leap) is the same. The calendar of 2024 repeats in 2052.

The hands of a clock: the minute hand gains 5.5° per minute on the hour hand (360 ÷ 5.5 = 65 5/11 minutes for a complete relative circuit). At 3:00 the angle between the hands is 90°.

Cause and Effect

Read both statements and decide: is I the cause of II, is II the cause of I, are they independent causes, or are they effects of a common cause? A cause must come before its effect in time and must be capable of producing it.

Coding–Decoding — Number and Letter

Letter coding: each letter changes by a fixed number (for example A→C, B→D, i.e. +2) or changes to its opposite letter (A↔Z, B↔Y — the two positions add up to 27). Number coding: letters are replaced by their positions (A=1, B=2 … Z=26) or by a sum/difference.

To solve: write A–Z with positions 1–26, find the change or rule from the given example, then apply it to the question word.

Deductive Reasoning / Statement Analysis and Decision

A conclusion follows from a statement only when it is necessarily true on the basis of the statement — merely being possible is not enough. "All cats are animals; Tom is a cat" → "Tom is an animal" follows. "Some cats are black" does not mean "All cats are black". In decision questions, choose the action that directly solves the problem and is practical — not one that is merely desirable.

Solved Examples

Solved Example 1: Ravi is 7th from the left and 12th from the right in a row. How many people are in the row? Total = position from the left + position from the right − 1 = 7 + 12 − 1 = 18. Answer: 18 people.

Solved Example 2: In a code, CAT is written as DBU. How will DOG be written? C→D (+1), A→B (+1), T→U (+1). Each letter changes by +1. D→E, O→P, G→H. Answer: EPH.

Practice Questions

Q1. Which is the second largest number among 45, 67, 23, 89 and 54?

A. 67
B. 89
C. 54
D. 45

Q2. In a row of 25 students, Anil is 10th from the left. What is his position from the right?

A. 15th
B. 16th
C. 17th
D. 14th

Q3. Pointing to a picture, Ravi says, "She is the daughter of my father's only sister." What is that woman to Ravi?

A. Real sister
B. Paternal cousin (father's sister's daughter)
C. Paternal aunt
D. Niece

Q4. Which of the following is different from the others?

A. 2
B. 4
C. 6
D. 9

Q5. Why was the year 2000 a leap year?

A. It is divisible by 4
B. It is divisible by 400
C. It is divisible by 100
D. It is a century year

Q6. Statement I: The government has increased the tax on petrol. Statement II: The prices of vegetables have risen. Which is correct?

A. The first statement is the proven cause of the second
B. The second statement is the proven cause of the first
C. A shared cause of both is proven
D. The cause cannot be determined from the given facts

Q7. In a code, APPLE is written as BQQMF, so how will MANGO be written?

A. NBOPH
B. NBOHP
C. MBOPH
D. NCPOH

Q8. At least one pen exists. Statements: All pens are books. All books are tables. Conclusion I: All pens are tables. Conclusion II: Some tables are pens. Which follows?

A. Only I follows
B. Only II follows
C. Both I and II follow
D. Neither follows

Q9. What is the smaller angle between the two hands of a clock at exactly 3 o'clock?

A. 60°
B. 75°
C. 90°
D. 120°

Q10. Which is the odd one out?

A. Apple
B. Mango
C. Banana
D. Potato

Answer Key

Q1. (A) 67 — In descending order: 89, 67, 54, 45, 23. The second largest number is 67.

Q2. (B) 16th — Position from the right = 25 − 10 + 1 = 16.

Q3. (B) Paternal cousin (father's sister's daughter) — The father's sister is the paternal aunt. The paternal aunt's daughter is Ravi's paternal cousin. The daughter of an uncle (father's brother) is a paternal cousin of a different kind (chacheri behen).

Q4. (D) 9 — 2, 4 and 6 are even; 9 is odd.

Q5. (B) It is divisible by 400 — Century years are leap years only when divisible by 400; 2000 ÷ 400 = 5, so it was a leap year (1900 was not).

Q6. (D) The cause cannot be determined from the given facts — Two changes occurring together does not prove that one produced the other. More evidence is needed to decide the cause.

Q7. (B) NBOHP — Move each letter one place forward. M→N, A→B, N→O, G→H and O→P give NBOHP.

Q8. (C) Both I and II follow — All pens are books and all books are tables, so all pens are tables. At least one pen exists, so some tables are also pens.

Q9. (C) 90° — At 3:00 the hour hand is at 3 and the minute hand is at 12 — a right angle of 90°.

Q10. (D) Potato — Apple, mango and banana are fruits; potato is a vegetable.

Chapter 11: Current Affairs

Exam weightage 10 marks • This chapter has 24 practice questions

Write every event together with its year, place, category and outcome. Examples of Uttar Pradesh projects, sports and awards appear together in this chapter.

Syllabus Summary

Indian and global (current affairs)

English topic guide · National and international current affairs.

How to Read Current Affairs

Link every event with its date, place, institution and outcome. For an award, write the category; for sport, write the competition, year and winner. When the examination programme arrives, revise the major events up to near that date. The information limit of this edition is 24 November 2026.

Uttar Pradesh and India, 2026

On 28 March, the first phase of Noida International Airport at Jewar, Gautam Buddha Nagar, was inaugurated. On 29 April, the 594 km-long Ganga Expressway was inaugurated at Hardoi. The expressway connects Meerut and Prayagraj. Remember the inauguration site and the endpoints of the route separately.

Sports and Literature, 2026

On 8 March, in Ahmedabad, India beat New Zealand by 96 runs to win the men's T20 World Cup. In May, Taiwan Travelogue received the International Booker Prize. It was written by Yáng Shuāng-zǐ and translated into English by Lin King. In November, The End of Everything by M. John Harrison won the Booker Prize.

Major Events of Previous Years

In 2023, New Delhi hosted the G20 Summit. In the same year, Chandrayaan-3 made a soft landing on the Moon. The 2024 Summer Olympics were held in Paris. In 2025, COP30 was held in Belém, Brazil. When comparing these dates, make separate entries for the achievement, the summit and the host country.

Solved Examples

Solved Example 1: Which Booker honour did Heart Lamp receive in 2025? First identify the category of the prize. It was a work translated from Kannada. The author Banu Mushtaq and the translator Deepa Bhasthi shared the International Booker Prize. In the same year, the Booker Prize went to Flesh by David Szalay.

Solved Example 2: If only "Ganga Expressway, Hardoi" is written, is Hardoi the endpoint of the route? No. The 2026 inauguration was in Hardoi, while the road runs from Meerut to Prayagraj.

Practice Questions

Q1. Which country hosted the 2024 Summer Olympics?

A. Japan
B. France
C. USA
D. Brazil

Q2. Whom did India beat to win the 2024 ICC Men's T20 World Cup?

A. Australia
B. England
C. South Africa
D. Pakistan

Q3. Which country held the presidency of the G20 in 2023?

A. Indonesia
B. India
C. Brazil
D. Italy

Q4. In which month and year did the Vikram lander of Chandrayaan-3 make a soft landing on the Moon?

A. July 2023
B. August 2023
C. September 2023
D. October 2023

Q5. To whom was the Nobel Peace Prize 2024 awarded?

A. International Red Cross
B. Nihon Hidankyo
C. World Food Programme
D. Maria Ressa

Q6. Who is the author of Heart Lamp, the collection that won the 2025 International Booker Prize?

A. Arundhati Roy
B. Geetanjali Shree
C. Banu Mushtaq
D. Kiran Desai

Q7. Who won the 2024 ICC Women's T20 World Cup?

A. India
B. Australia
C. New Zealand
D. South Africa

Q8. Which summit was held in Belém, Brazil, in 2025?

A. G20 Summit
B. COP30
C. BRICS Summit
D. ASEAN Summit

Q9. Who is the Chief Minister of Uttar Pradesh as of 2026?

A. Akhilesh Yadav
B. Yogi Adityanath
C. Mayawati
D. Keshav Prasad Maurya

Q10. Which countries jointly hosted the 2026 FIFA World Cup?

A. USA, Canada and Mexico
B. Qatar, Saudi Arabia and UAE
C. Brazil, Argentina and Chile
D. England, Spain and Portugal

Q11. Which Indian city hosted the first Khelo India Para Games in 2023?

A. Mumbai
B. New Delhi
C. Bengaluru
D. Lucknow

Q12. For what work was the 2025 Nobel Prize in Physics awarded?

A. Commercial use of quantum computing
B. Discovery of the Higgs boson
C. Macroscopic quantum tunnelling and the quantisation of energy in an electrical circuit
D. First observation of gravitational waves

Q13. Which country held the presidency of BRICS in 2025?

A. India
B. Brazil
C. Russia
D. China

Q14. Who won the Women's Premier League (WPL) 2024 title?

A. Mumbai Indians
B. Royal Challengers Bengaluru
C. Delhi Capitals
D. UP Warriorz

Q15. Which is India's first solar mission?

A. Chandrayaan-3
B. Aditya-L1
C. Gaganyaan
D. Mangalyaan

Q16. Who won the 2024 US presidential election?

A. Joe Biden
B. Kamala Harris
C. Donald Trump
D. Barack Obama

Q17. Which Indian state launched the "Mukhyamantri Yuva Udyami Vikas Abhiyan" for young entrepreneurs?

A. Bihar
B. Madhya Pradesh
C. Uttar Pradesh
D. Rajasthan

Q18. Where was the 2025 World Athletics Championships held?

A. Paris
B. Tokyo
C. London
D. Berlin

Q19. Who won the 2025 ICC Champions Trophy?

A. India
B. Australia
C. New Zealand
D. Pakistan

Q20. On which date did the Pran Pratishtha of Ram Lalla take place at the Ram Temple in Ayodhya?

A. 22 January 2024
B. 22 January 2023
C. 5 August 2024
D. 15 August 2023

Q21. Where was the first phase of Noida International Airport inaugurated in March 2026?

A. Kanpur
B. Jewar
C. Bareilly
D. Gorakhpur

Q22. Which two cities does the Ganga Expressway, inaugurated in April 2026, connect?

A. Lucknow and Gorakhpur
B. Agra and Varanasi
C. Meerut and Prayagraj
D. Kanpur and Jhansi

Q23. Whom did India beat in the final of the 2026 Men's T20 World Cup?

A. New Zealand
B. Australia
C. South Africa
D. England

Q24. Which book received the 2026 International Booker Prize?

A. Flesh
B. Heart Lamp
C. The End of Everything
D. Taiwan Travelogue

Answer Key

Q1. (B) France — The 2024 Summer Olympics were held in Paris, France.

Q2. (C) South Africa — India beat South Africa in the final (Bridgetown, Barbados) to win the 2024 T20 World Cup.

Q3. (B) India — In 2023 the presidency of the G20 was with India; the New Delhi Leaders' Declaration was adopted at the New Delhi summit.

Q4. (B) August 2023 — The Vikram lander of Chandrayaan-3 landed near the south pole of the Moon on 23 August 2023.

Q5. (B) Nihon Hidankyo — The Japanese organisation of atomic-bomb survivors received the 2024 Nobel Peace Prize.

Q6. (C) Banu Mushtaq — The author Banu Mushtaq and Deepa Bhasthi, who translated it from Kannada into English, shared the International Booker Prize.

Q7. (C) New Zealand — New Zealand beat South Africa in Dubai to win the 2024 ICC Women's T20 World Cup.

Q8. (B) COP30 — COP30 (the United Nations Climate Conference) was held in Belém, Brazil, in November 2025.

Q9. (B) Yogi Adityanath — Yogi Adityanath is the Chief Minister of Uttar Pradesh.

Q10. (A) USA, Canada and Mexico — The 2026 FIFA World Cup was jointly hosted by the USA, Canada and Mexico.

Q11. (B) New Delhi — The first Khelo India Para Games (December 2023) were held in New Delhi.

Q12. (C) Macroscopic quantum tunnelling and the quantisation of energy in an electrical circuit — The 2025 Physics Nobel went to John Clarke, Michel Devoret and John Martinis for the discovery of these two quantum effects in an electrical circuit.

Q13. (B) Brazil — In 2025 the presidency of BRICS was with Brazil; in 2026 it was with India.

Q14. (B) Royal Challengers Bengaluru — RCB beat Delhi Capitals in the final to win the WPL 2024 title.

Q15. (B) Aditya-L1 — Aditya-L1 (launched in September 2023) is India's first solar mission; it studies the Sun from the L1 point.

Q16. (C) Donald Trump — Donald Trump won the 2024 US presidential election and took office in January 2025.

Q17. (C) Uttar Pradesh — The Mukhyamantri Yuva Udyami Vikas Abhiyan is a scheme of Uttar Pradesh for young entrepreneurs.

Q18. (B) Tokyo — The 2025 World Athletics Championships were held in Tokyo, Japan.

Q19. (A) India — India beat New Zealand in the final in Dubai to win the 2025 ICC Champions Trophy.

Q20. (A) 22 January 2024 — The Pran Pratishtha at the Ram Temple in Ayodhya took place on 22 January 2024.

Q21. (B) Jewar — Jewar is in Gautam Buddha Nagar district, Uttar Pradesh.

Q22. (C) Meerut and Prayagraj — This 594 km-long route connects Meerut to Prayagraj. The inauguration was in Hardoi.

Q23. (A) New Zealand — On 8 March, in Ahmedabad, India beat New Zealand by 96 runs.

Q24. (D) Taiwan Travelogue — The author of Taiwan Travelogue, Yáng Shuāng-zǐ, and the translator, Lin King, shared this honour.

Chapter 12: General Awareness

Exam weightage 10 marks • This chapter has 20 practice questions

Questions on capitals, headquarters, authors and awards often ask for the correct pair. To remember different capitals of the same country, or the co-author of a book, write the roles separately.

Syllabus Summary

India's neighbouring countries • Countries, capitals and currencies • States and Union Territories of India • Indian Parliament, Rajya Sabha, Lok Sabha and Vidhan Sabha, Vidhan Parishad • National and international days • World organisations and their headquarters • Indian tourist places • Indian art and culture • Sports in India and the world • Indian research organisations • Famous books and authors • Awards and winners • Climate change and environment

English topic guide · Neighbouring countries, capitals and currencies, legislatures, commemorative days, organisations, tourism, culture, sports, research, books, awards and the environment.

Neighbouring Countries, Capitals and Currencies

Nepal — Kathmandu — Nepalese Rupee. Bhutan — Thimphu — Ngultrum. Bangladesh — Dhaka — Taka. Pakistan — Islamabad — Pakistani Rupee. Sri Lanka — Sri Jayawardenepura Kotte (capital and seat of Parliament), Colombo (commercial centre) — Sri Lankan Rupee. Maldives — Malé — Rufiyaa. Myanmar — Naypyidaw — Kyat. China — Beijing — Yuan (Renminbi). Afghanistan — Kabul — Afghani.

Other capitals: USA — Washington D.C. — Dollar; Britain — London — Pound Sterling; Japan — Tokyo — Yen; Russia — Moscow — Rouble; France — Paris — Euro; Germany — Berlin — Euro; Australia — Canberra — Australian Dollar; Canada — Ottawa — Canadian Dollar; Brazil — Brasília — Real; South Africa — Pretoria (administrative) / Cape Town (legislative) / Bloemfontein (judicial) — Rand.

States and Union Territories of India

28 States, 8 Union Territories. Largest by area: Rajasthan; smallest: Goa. Most populous: Uttar Pradesh; least populous: Sikkim. Uttar Pradesh has the most Lok Sabha seats (80); it also has the most Rajya Sabha seats (31).

State capitals: Lucknow (U.P.), Patna (Bihar), Bhopal (M.P.), Jaipur (Rajasthan), Mumbai (Maharashtra), Chennai (Tamil Nadu), Kolkata (West Bengal), Bengaluru (Karnataka), Hyderabad (Telangana). Ahmedabad is NOT the capital of Gujarat — Gandhinagar is.

Parliament and State Legislatures

Lok Sabha (House of the People): 543 elected members; 5-year term; the Speaker presides. Rajya Sabha (Council of States): 245 members, one-third retiring every two years; the Vice-President is its ex-officio Chairman. Vidhan Sabha and Vidhan Parishad are in the States; only 6 States have a Vidhan Parishad (U.P., Bihar, Maharashtra, Karnataka, Andhra Pradesh, Telangana).

National and International Days

26 January — Republic Day; 15 August — Independence Day; 2 October — Gandhi Jayanti; 14 November — Children's Day (Nehru's birthday); 5 June — World Environment Day; 21 June — International Yoga Day; 8 March — International Women's Day; 10 December — Human Rights Day; 5 September — Teachers' Day (Radhakrishnan's birthday); 14 September — Hindi Diwas.

World Organisations and Their Headquarters

United Nations (UN) — New York; UNESCO — Paris; WHO — Geneva; IMF — Washington D.C.; World Bank — Washington D.C.; WTO — Geneva; ILO — Geneva; UNICEF — New York; IAEA — Vienna; SAARC — Kathmandu; ASEAN — Jakarta; BRICS — no permanent headquarters (rotating chairmanship); INTERPOL — Lyon.

Indian Tourist Places

Taj Mahal (Agra, UNESCO site), Red Fort (Delhi), Qutub Minar (Delhi), Hampi (Karnataka), Khajuraho (Madhya Pradesh), Konark Sun Temple (Odisha), Ajanta and Ellora (Maharashtra), Sanchi Stupa (Madhya Pradesh), Varanasi (one of the world's oldest continuously inhabited cities), Vaishno Devi (Jammu), Tirupati (Andhra Pradesh).

Indian Art and Culture

Classical dances: Bharatanatyam (Tamil Nadu), Kathak (U.P.), Kathakali (Kerala), Kuchipudi (Andhra Pradesh), Odissi (Odisha), Manipuri (Manipur), Sattriya (Assam), Mohiniyattam (Kerala). Folk dances: Bihu (Assam), Garba (Gujarat), Bhangra (Punjab), Lavani (Maharashtra), Ghoomar (Rajasthan).

The two major traditions of Indian classical music are Hindustani music (North India) and Carnatic music (South India). Ravi Shankar (sitar), Bismillah Khan (shehnai), Zakir Hussain (tabla), M. S. Subbulakshmi (Carnatic vocal).

Sports in India and the World

The first Women's One-Day Cricket World Cup was won by England in 1973. The first Men's One-Day Cricket World Cup was won by the West Indies in 1975; India won in 1983 (Kapil Dev) and 2011 (M. S. Dhoni). Hockey: India has won 8 Olympic gold medals; Major Dhyan Chand's birthday (29 August) is celebrated as National Sports Day. Football: the FIFA World Cup is held every 4 years; the first was in 1930 (Uruguay). Olympics: the modern Olympics began in Athens in 1896; India first took part in 1900.

Trophies: Ranji Trophy (cricket, first-class), Davis Cup (tennis), Thomas Cup (badminton, men), Uber Cup (badminton, women).

Indian Research Institutes

ISRO's headquarters is in Bengaluru. Its work relates to satellites, launches and space applications. CSIR is a network of laboratories for industrial and scientific research. DRDO relates to defence research and ICAR to agricultural research.

Books and Awards

The Discovery of India was written by Jawaharlal Nehru. *Wings of Fire* is the autobiography of Dr. A. P. J. Abdul Kalam, which he wrote with Arun Tiwari. *Godan* is a novel by Premchand. The first recipients of the Bharat Ratna in 1954 were C. Rajagopalachari, S. Radhakrishnan and C. V. Raman.

Environment and Climate

Weather is the short-term condition of a place, while climate describes the long-term average and changes. The Paris Agreement was adopted in 2015. Reducing emissions is mitigation, while building flood-resilient infrastructure is an example of adaptation.

Solved Examples

Solved Example 1: If a question asks for the legislative capital of South Africa, what is the answer? Identify the role word. Because of Parliament, Cape Town is the legislative capital. Pretoria is the administrative capital and Bloemfontein the judicial capital.

Solved Example 2: Building a water-harvesting structure in a drought-prone area is an example of what? This preparation, which reduces the impact of local water shortage, is climate adaptation. Measures that reduce emissions fall under mitigation.

Practice Questions

Q1. What is the capital of Bhutan?

A. Kathmandu
B. Thimphu
C. Dhaka
D. Colombo

Q2. How many States are there in India?

A. 27
B. 28
C. 29
D. 30

Q3. Which State has the most Lok Sabha seats?

A. Bihar
B. Maharashtra
C. Uttar Pradesh
D. West Bengal

Q4. On which date is Teachers' Day celebrated in India?

A. 5 June
B. 5 September
C. 14 November
D. 2 October

Q5. In which city is the headquarters of the World Health Organization (WHO)?

A. New York
B. Paris
C. Geneva
D. Vienna

Q6. The classical dance Kuchipudi belongs to which State?

A. Tamil Nadu
B. Kerala
C. Andhra Pradesh
D. Odisha

Q7. Who wrote *The Discovery of India*?

A. M. K. Gandhi
B. Jawaharlal Nehru
C. R. K. Narayan
D. Rabindranath Tagore

Q8. Who among the following received one of the first Bharat Ratna awards in 1954?

A. A. P. J. Abdul Kalam
B. C. V. Raman
C. Mother Teresa
D. Lata Mangeshkar

Q9. In which year was the Paris Agreement on climate change adopted?

A. 1997
B. 2005
C. 2015
D. 2021

Q10. Which is the largest State of India by area?

A. Madhya Pradesh
B. Maharashtra
C. Rajasthan
D. Uttar Pradesh

Q11. What is the currency of Japan?

A. Won
B. Yen
C. Yuan
D. Ringgit

Q12. On which date is International Yoga Day celebrated?

A. 21 March
B. 21 June
C. 21 September
D. 21 December

Q13. In which city is the headquarters of the South Asian Association for Regional Cooperation (SAARC)?

A. New Delhi
B. Dhaka
C. Kathmandu
D. Islamabad

Q14. *Wings of Fire* is the autobiography of whom?

A. A. P. J. Abdul Kalam
B. Vikram Sarabhai
C. Homi Bhabha
D. C. V. Raman

Q15. On which date is National Sports Day celebrated in India?

A. 29 August
B. 15 August
C. 26 January
D. 2 October

Q16. In which city were the first modern Olympic Games held?

A. Rome
B. Paris
C. London
D. Athens

Q17. Where is the headquarters of the Indian Space Research Organisation (ISRO)?

A. New Delhi
B. Chennai
C. Bengaluru
D. Hyderabad

Q18. Who wrote *Godan*?

A. Jaishankar Prasad
B. Premchand
C. Mahadevi Varma
D. Harivansh Rai Bachchan

Q19. The Ranji Trophy is associated with which sport?

A. Football
B. Hockey
C. Cricket
D. Badminton

Q20. Which of the following States has a Legislative Council (Vidhan Parishad)?

A. Gujarat
B. Rajasthan
C. Uttar Pradesh
D. Punjab

Answer Key

Q1. (B) Thimphu — Thimphu is the capital of Bhutan; Kathmandu is Nepal's and Dhaka is Bangladesh's.

Q2. (B) 28 — India has 28 States and 8 Union Territories.

Q3. (C) Uttar Pradesh — U.P. has 80 Lok Sabha seats, more than any other State.

Q4. (B) 5 September — Teachers' Day is 5 September (Dr. Radhakrishnan's birthday); Children's Day is 14 November.

Q5. (C) Geneva — WHO's headquarters is in Geneva; UNESCO is in Paris and the UN in New York.

Q6. (C) Andhra Pradesh — Kuchipudi is from Andhra Pradesh; Bharatanatyam is from Tamil Nadu and Kathakali from Kerala.

Q7. (B) Jawaharlal Nehru — *The Discovery of India* was written by Nehru; *The Story of My Experiments with Truth* is Gandhi's.

Q8. (B) C. V. Raman — The first Bharat Ratna recipients (1954) were C. Rajagopalachari, S. Radhakrishnan and C. V. Raman.

Q9. (C) 2015 — The Paris Agreement was adopted in 2015; the Kyoto Protocol was of 1997.

Q10. (C) Rajasthan — Rajasthan is the largest State by area; Goa is the smallest.

Q11. (B) Yen — The yen is Japan's currency; the won is Korea's and the yuan is China's.

Q12. (B) 21 June — International Yoga Day is 21 June.

Q13. (C) Kathmandu — SAARC's headquarters is in Kathmandu, Nepal.

Q14. (A) A. P. J. Abdul Kalam — It is the autobiography of Dr. A. P. J. Abdul Kalam, which he wrote with Arun Tiwari.

Q15. (A) 29 August — National Sports Day is 29 August, Major Dhyan Chand's birthday.

Q16. (D) Athens — The first modern Olympics were held in Athens in 1896.

Q17. (C) Bengaluru — ISRO's headquarters is in Bengaluru.

Q18. (B) Premchand — *Godan* is a novel by Premchand.

Q19. (C) Cricket — The Ranji Trophy is India's first-class cricket championship.

Q20. (C) Uttar Pradesh — U.P. has a Legislative Council; only 6 States have one (U.P., Bihar, Maharashtra, Karnataka, Andhra Pradesh, Telangana).

Chapter 13: Unseen Hindi Passage

Exam weightage 10 marks • This chapter has 20 practice questions

For every answer, find the basis in the passage. A question may ask what the author says, the contextual meaning of a word, or the main idea of the whole paragraph.

Syllabus Summary

Two unseen passages (five questions on each)

English topic guide · Two unseen Hindi passages with five questions each in the exam pattern.

Note: The passages themselves are in Hindi, as in the examination. Only the questions, options and explanations are in English.

How to Read a Passage

First read the whole passage, then look at the questions. On the first reading, understand the main idea; on the second reading, search for details as the questions require. Give answers only from the passage. Do not answer from your own knowledge — what is written in the passage is correct. In vocabulary questions, work out the meaning from the context of the sentence — the meaning of a word becomes clear from the sentences around it. In title questions, choose the option that gives the gist of the whole passage, not of a single sentence. In conclusion questions, choose only what certainly follows from the passage — certainty is needed, not possibility.

Solved Passage

Education gives a person the ability to think, to reason and to distinguish right from wrong. If the opportunity of education reaches every home, its benefit goes to the family and to society. It is called true wealth because the understanding that is learned stays with the person.

Solved Example 1: What is the main idea? The understanding gained from education benefits both the person and society.

Solved Example 2: What does "wealth" mean here? Here it is a metaphor for lasting understanding.

Solved Example 3: Who should get the opportunity? The passage speaks of taking the opportunity of education to every home.

Solved Example 4: Did the author guarantee a job? No such thing is written in the passage.

Solved Example 5: What would be a suitable title? "The Understanding Gained from Education" sums up the main idea of the whole paragraph.

Practice Questions

Passage 1 — Environment

वृक्ष हमारे जीवन के सच्चे मित्र हैं। वे हमें ऑक्सीजन देते हैं, छाया देते हैं और वर्षा लाने में सहायक होते हैं। वृक्षों की जड़ें मिट्टी को बाँधकर रखती हैं, जिससे भूमि का कटाव रुकता है। वृक्षों से हमें फल, फूल, लकड़ी और औषधियाँ मिलती हैं। परंतु आज मनुष्य अपनी आवश्यकताओं के लिए वृक्षों को अंधाधुंध काट रहा है। इसके परिणामस्वरूप वायु प्रदूषण बढ़ रहा है, वर्षा कम हो रही है और अनेक जीव-जंतु अपने आवास खो रहे हैं। यदि हम अभी भी नहीं चेते, तो आने वाली पीढ़ियों को स्वच्छ वायु और पानी के लिए तरसना पड़ेगा। इसलिए प्रत्येक व्यक्ति को कम से कम एक वृक्ष लगाना चाहिए और उसकी देखभाल करनी चाहिए। वृक्षारोपण ही पर्यावरण की रक्षा का सबसे सरल और प्रभावी उपाय है।

Q1. According to the passage, what role do the roots of trees play?

A. They absorb water
B. They bear fruit
C. They bind the soil and stop soil erosion
D. They give shade

Q2. What is happening as a result of cutting down trees?

A. Air pollution is increasing and rainfall is decreasing
B. Rainfall is increasing
C. The soil is becoming fertile
D. Animals are increasing in number

Q3. According to the passage, what is the simplest way to protect the environment?

A. Closing factories
B. Saving electricity
C. Saving water
D. Tree plantation

Q4. What does the word 'अंधाधुंध' mean in the passage?

A. In the dark
B. Without thinking
C. Slowly
D. At night

Q5. What is the main message of this passage?

A. Planting trees and protecting them is necessary
B. We get wood from trees
C. Rainfall is decreasing
D. Animals are becoming extinct

Passage 2 — Health

स्वास्थ्य ही सबसे बड़ा धन है। रोज़मर्रा की भागदौड़ में हम कभी नींद घटा देते हैं, कभी भोजन टाल देते हैं। अनियमित खान-पान, नींद की कमी और शारीरिक गतिविधि का अभाव स्वास्थ्य संबंधी कठिनाइयाँ बढ़ा सकते हैं। संतुलित भोजन, पर्याप्त नींद और अपनी उम्र व क्षमता के अनुरूप नियमित गतिविधि स्वास्थ्य की देखभाल में सहायक हैं। हर व्यक्ति की ज़रूरतें अलग होती हैं। दिनचर्या में छोटा, टिकाऊ बदलाव भी मायने रखता है।

Q6. According to the passage, what is the greatest wealth?

A. Money
B. Knowledge
C. Gold
D. Health

Q7. Which habits does the passage link with health difficulties?

A. Only lack of money
B. Irregular eating, less sleep and less physical activity
C. Travelling and reading
D. Playing too much

Q8. What does the passage suggest for looking after health?

A. Only exercise
B. Only medicines
C. Balanced food, enough sleep and suitable activity
D. The same daily routine for everyone

Q9. What does "टिकाऊ बदलाव" (lasting change) mean in the passage?

A. A very fast change
B. An expensive remedy
C. A temporary decision
D. One that can be kept up for a long time

Q10. Which is the most suitable title for this passage?

A. Health Itself Is Wealth
B. Benefits of Exercise
C. Advice of Doctors
D. Yoga and Pranayama

Passage 3 — Digital India

आज का युग डिजिटल युग है। कंप्यूटर, मोबाइल और इंटरनेट ने हमारे जीवन को पूरी तरह बदल दिया है। अब घर बैठे बैंक का काम, टिकट बुक करना, पढ़ाई और खरीदारी संभव हो गई है। डिजिटल इंडिया अभियान के अंतर्गत गाँव-गाँव तक इंटरनेट पहुँचाया जा रहा है। किसान अपने मोबाइल से मौसम की जानकारी और फसल का भाव जान सकते हैं। छात्र ऑनलाइन कक्षाओं से पढ़ सकते हैं। परंतु डिजिटल सुविधाओं के साथ कुछ खतरे भी आए हैं — ऑनलाइन ठगी, गलत जानकारी और बच्चों का मोबाइल की लत में पड़ना। इसलिए डिजिटल साधनों का उपयोग सावधानी और समझदारी से करना चाहिए। तकनीक वरदान तभी है, जब उसका सही उपयोग हो।

Q11. What is the objective of the Digital India campaign?

A. To give internet in cities
B. To sell mobiles
C. To take internet to every village
D. To make computers

Q12. What can farmers learn from their mobile phones?

A. Only news
B. Weather information and crop prices
C. Only sports
D. Only films

Q13. What dangers of digital facilities are mentioned in the passage?

A. Only electricity consumption
B. Only unemployment
C. Only inflation
D. Online fraud, wrong information and mobile addiction

Q14. What is meant by calling technology a "वरदान" (blessing) in this passage?

A. A great benefit gained from its correct use
B. A divine miracle
C. A difficult test
D. A certain loss

Q15. According to the passage, when is technology a blessing?

A. When it is expensive
B. When it is new
C. When it is used correctly
D. When it is fast

Passage 4 — Water Conservation

पृथ्वी की सतह का बड़ा भाग पानी से ढका है, फिर भी उपयोग योग्य मीठा जल सीमित है। कई इलाकों में जरूरत से अधिक निकासी के कारण भूजल स्तर गिरता है। बारिश का पानी टंकी में रखकर बाद में काम में लिया जा सकता है। इससे कुओं या नलकूपों पर निर्भरता घट सकती है। दूसरी ओर, रिसाव वाले तालाब और रिचार्ज पिट पानी को जमीन में उतरने देते हैं, जिससे भूजल का पुनर्भरण होता है। टपक और फव्वारा सिंचाई खेतों में पानी बचाने में सहायक हैं। पानी को संचित करना और उसे जमीन के भीतर पहुँचाना जल संरक्षण के दो अलग उपाय हैं।

Q16. What is said about drinking water?

A. It is very abundant
B. It is very scarce
C. It is in the sea
D. It is in ice

Q17. What is the main reason for the falling groundwater level?

A. Extracting more water than needed
B. Lack of rainfall
C. Rivers drying up
D. Building dams

Q18. How is water saved in farming?

A. By giving more water
B. By breaking dams
C. By building canals
D. By drip irrigation and sprinkler irrigation

Q19. According to the passage, what is the direct benefit of a recharge pit?

A. Sea water becomes sweet
B. Water seeps into the ground and helps recharge groundwater
C. All leakage from pipes stops
D. The yield of every crop doubles

Q20. What does the word 'संचित' mean in the passage?

A. To waste
B. To let flow away
C. To collect and store
D. To dry

Answer Key

Q1. (C) They bind the soil and stop soil erosion — The passage says: the roots of trees bind the soil, which stops soil erosion.

Q2. (A) Air pollution is increasing and rainfall is decreasing — According to the passage, cutting down trees is increasing air pollution and reducing rainfall.

Q3. (D) Tree plantation — The passage says: tree plantation is the simplest and most effective way to protect the environment.

Q4. (B) Without thinking — 'अंधाधुंध' means without thinking (cutting indiscriminately = cutting without thought).

Q5. (A) Planting trees and protecting them is necessary — The whole passage is about the importance of trees and their protection.

Q6. (D) Health — The first sentence of the passage: health itself is the greatest wealth.

Q7. (B) Irregular eating, less sleep and less physical activity — These are the three causes given in the passage.

Q8. (C) Balanced food, enough sleep and suitable activity — The author speaks of this combination of habits, and also notes that needs differ from person to person.

Q9. (D) One that can be kept up for a long time — In the context of a daily routine, a lasting change is one a person can maintain for a long time.

Q10. (A) Health Itself Is Wealth — That is the main idea of the passage.

Q11. (C) To take internet to every village — Under the Digital India campaign, internet is being taken to every village.

Q12. (B) Weather information and crop prices — Farmers can learn this from their mobiles.

Q13. (D) Online fraud, wrong information and mobile addiction — These are the three dangers mentioned in the passage.

Q14. (A) A great benefit gained from its correct use — Here 'blessing' is used as a metaphor for the convenience and benefit gained from technology.

Q15. (C) When it is used correctly — The last sentence of the passage: technology is a blessing only when it is used correctly.

Q16. (B) It is very scarce — Three-fourths of the Earth's surface is covered with water, but drinkable fresh water is very scarce.

Q17. (A) Extracting more water than needed — The main reason for the falling groundwater level is extracting more water than needed.

Q18. (D) By drip irrigation and sprinkler irrigation — These methods save water in farming.

Q19. (B) Water seeps into the ground and helps recharge groundwater — Water enters the ground through the pit. Water kept in a closed tank can be used directly.

Q20. (C) To collect and store — 'संचित' means to collect and store.

Chapter 14: Graph Interpretation and Analysis

Exam weightage 10 marks • This chapter has 20 practice questions

A bar chart shows a comparison between categories. A line chart helps in reading change over time. First look at the axes and the unit, then pick the related value.

Syllabus Summary

Two graphs (five questions on each)

English topic guide · Two graphs with five questions each in the exam pattern.

Read the Axes and the Scale

First look at the title of the graph, the names of the axes and the unit. The X-axis (below) usually shows time or a category; the Y-axis (at the side) shows the quantity. First find the largest and the smallest values. Then look at the trend of increase or decrease — is the value rising steadily, falling, or going up and down? To find a difference, subtract the two values; for percentage change, use the formula (new − old) ÷ old × 100. To find an average, add all the values and divide by their number. Do not guess what is not shown in the graph. Give the answer only from the data given.

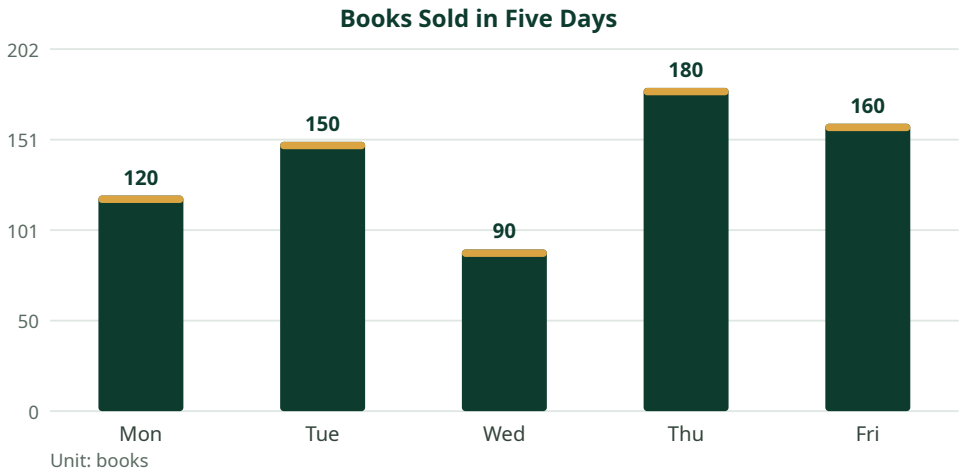
The data in this chapter has been created to give practice in calculation.

Solved Graph

Books sold in five days

Number of books sold

Day	Books sold
Monday	120
Tuesday	150
Wednesday	90
Thursday	180
Friday	160



Solved Example 1: On which day were the most books sold? Answer: Thursday (180) — the tallest bar in the graph is 180, which is Thursday's.

Solved Example 2: How many books were sold in total over the five days? Answer: 700 — 120 + 150 + 90 + 180 + 160 = 700.

Solved Example 3: How many books were sold on average per day? Answer: 140 — total 700 ÷ 5 days = 140.

Solved Example 4: How many fewer books were sold on Wednesday than on Tuesday? Answer: 60 fewer — 150 − 90 = 60.

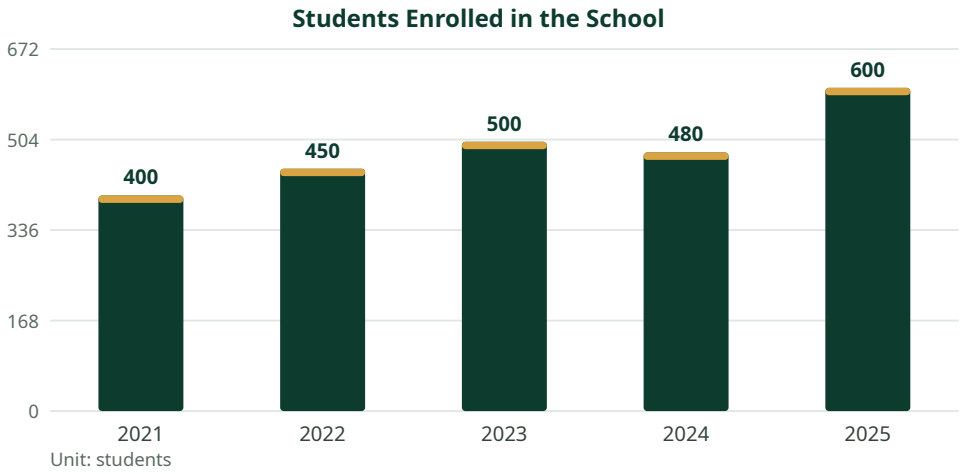
Solved Example 5: By what percentage were the books sold on Friday more than those sold on Monday? Answer: 33.33% more — (160 − 120) ÷ 120 × 100 = 33.33%.

Practice Questions

Students enrolled in a school

Number of students

Year	Students
2021	400
2022	450
2023	500
2024	480
2025	600



Q1. In which year was the number of students the highest?

A. 2023
B. 2024
C. 2025
D. 2022

Q2. By how many students did the number increase in 2023 compared with 2022?

A. 40
B. 50
C. 60
D. 100

Q3. What was the total number of students over the five years?

A. 2,330
B. 2,430
C. 2,530
D. 2,230

Q4. In which year did the number of students fall?

A. 2022
B. 2023
C. 2024
D. 2025

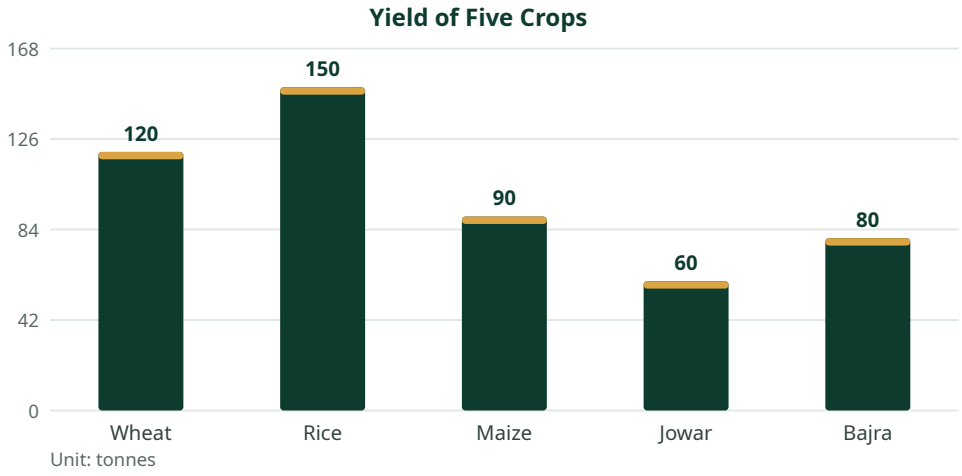
Q5. By what percentage was the number of students in 2025 more than in 2021?

A. 40%
B. 50%
C. 60%
D. 33.33%

Yield of five crops

Yield (tonnes)

Crop	Yield (tonnes)
Wheat	120
Rice	150
Maize	90
Jowar	60
Bajra	80



Q6. Which crop had the highest yield?

A. Wheat
B. Rice
C. Maize
D. Bajra

Q7. What was the total yield of all the crops?

A. 400 tonnes
B. 450 tonnes
C. 500 tonnes
D. 550 tonnes

Q8. By how much was the yield of rice more than the yield of wheat?

A. 20 tonnes
B. 30 tonnes
C. 40 tonnes
D. 50 tonnes

Q9. Which crop had the lowest yield?

A. Jowar
B. Bajra
C. Maize
D. Wheat

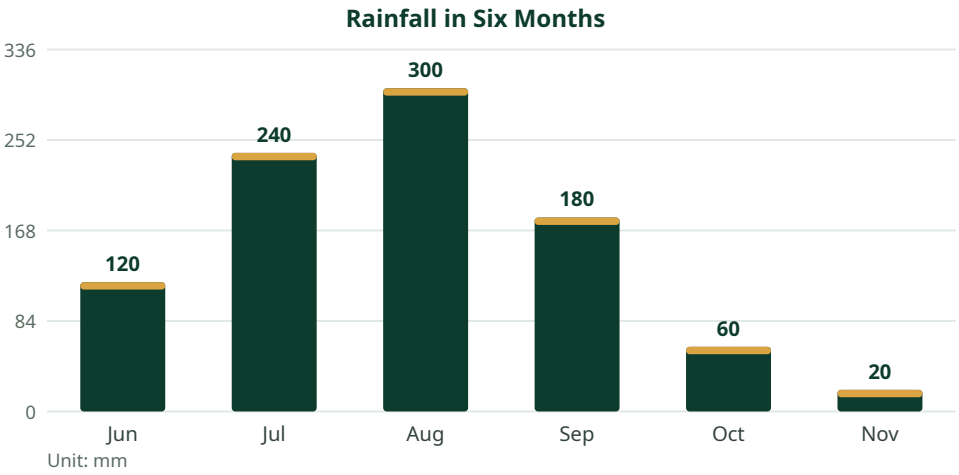
Q10. What was the combined yield of maize and bajra?

A. 150 tonnes
B. 170 tonnes
C. 180 tonnes
D. 200 tonnes

Rainfall in a city over six months

Rainfall (mm)

Month	Rainfall (mm)
June	120
July	240
August	300
September	180
October	60
November	20



Q11. In which month was the rainfall the highest?

A. June
B. July
C. August
D. September

Q12. What was the total rainfall over the six months?

A. 900 mm
B. 920 mm
C. 940 mm
D. 860 mm

Q13. How much more rain fell in August than in July?

A. 40 mm
B. 50 mm
C. 60 mm
D. 80 mm

Q14. In which month was the rainfall the lowest?

A. October
B. November
C. June
D. September

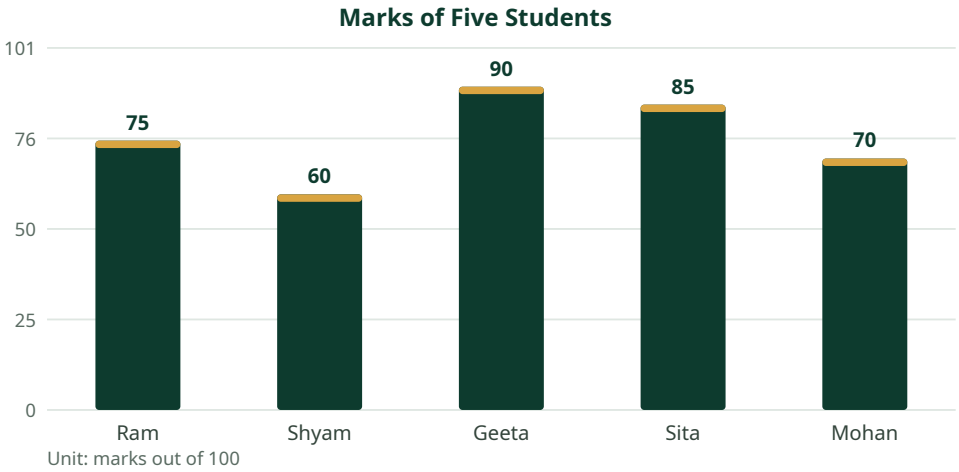
Q15. How many times the June rainfall was the August rainfall?

A. 2 times
B. 2.5 times
C. 3 times
D. 1.5 times

Marks of five students

Marks (out of 100)

Student	Marks
Ram	75
Shyam	60
Geeta	90
Sita	85
Mohan	70



Q16. Who scored the highest marks?

A. Ram
B. Geeta
C. Sita
D. Mohan

Q17. What were the total marks of all five students?

A. 370
B. 380
C. 390
D. 400

Q18. By how many marks were Geeta's marks more than Shyam's?

A. 20
B. 25
C. 30
D. 35

Q19. What was the average of the marks of all five students?

A. 74
B. 76
C. 78
D. 80

Q20. How many students scored more than 80 marks?

A. 1
B. 2
C. 3
D. 4

Answer Key

Q1. (C) 2025 — In 2025 there were 600 students, the highest.

Q2. (B) 50 — 500 − 450 = 50 students more.

Q3. (B) 2,430 — 400 + 450 + 500 + 480 + 600 = 2,430.

Q4. (C) 2024 — In 2024 the number fell from 500 to 480; in all other years it rose.

Q5. (B) 50% — (600 − 400) ÷ 400 × 100 = 50%.

Q6. (B) Rice — The yield of rice was 150 tonnes, the highest.

Q7. (C) 500 tonnes — 120 + 150 + 90 + 60 + 80 = 500 tonnes.

Q8. (B) 30 tonnes — 150 − 120 = 30 tonnes more.

Q9. (A) Jowar — The yield of jowar was 60 tonnes, the lowest.

Q10. (B) 170 tonnes — 90 + 80 = 170 tonnes.

Q11. (C) August — In August there was 300 mm of rainfall, the highest.

Q12. (B) 920 mm — 120 + 240 + 300 + 180 + 60 + 20 = 920 mm.

Q13. (C) 60 mm — 300 − 240 = 60 mm more.

Q14. (B) November — In November there was 20 mm of rainfall, the lowest.

Q15. (B) 2.5 times — 300 ÷ 120 = 2.5 times.

Q16. (B) Geeta — Geeta scored 90 marks, the highest.

Q17. (B) 380 — 75 + 60 + 90 + 85 + 70 = 380.

Q18. (C) 30 — 90 − 60 = 30 marks more.

Q19. (B) 76 — Total 380 ÷ 5 = 76.

Q20. (B) 2 — Geeta (90) and Sita (85) — two students scored more than 80 marks.

Chapter 15: Table Interpretation and Analysis

Exam weightage 10 marks • This chapter has 20 practice questions

The value in a cell is fixed by both its row and its column. If the heading says ₹ thousand, then 20 in the table means ₹20,000.

Syllabus Summary

Two tables (five questions on each)

English topic guide · Two tables with five questions each in the exam pattern.

Identify the Row and the Column

First read the title of the table and the names of the columns. Do not solve a question without understanding what each column shows. Learn to find the total of rows and columns. When "total" is asked, add all the values of the related row or column. In comparison questions, subtract the two values to find the difference; for a percentage, use the formula (part ÷ total) × 100. To find the largest / smallest value, read the column from top to bottom. Do not guess what is not given in the table.

The data in this chapter has been created to give practice in calculation.

Solved Table

Subject-wise marks of five students (each subject out of 100)

Student	Maths	Science	English	Total
Amit	80	75	70	225
Babita	90	85	80	255
Chandan	70	65	75	210
Deepa	85	90	85	260
Ekta	75	70	65	210

Solved Example 1: Which student has the highest total marks? Answer: Deepa (260) — the largest value in the total column is 260.

Solved Example 2: Who has the highest marks in Maths? Answer: Babita (90) — the largest value in the Maths column is 90.

Solved Example 3: What are Amit's total marks? Answer: 225 — 80 + 75 + 70 = 225.

Solved Example 4: What is the average of the five students' marks in Science? Answer: 77 — (75 + 85 + 65 + 90 + 70) ÷ 5 = 385 ÷ 5 = 77.

Solved Example 5: Which student has the lowest marks in English? Answer: Ekta (65) — the smallest value in the English column is 65.

Practice Questions

Sales of four shops from Monday to Friday (₹ thousand)

Shop	Mon	Tue	Wed	Thu	Fri	Total
A	20	25	30	35	40	150
B	30	35	25	20	30	140
C	15	20	25	30	35	125
D	25	30	35	40	45	175

Q1. Which shop had the highest total sales?

A. A
B. B
C. C
D. D

Q2. What was the total sales of all four shops on Tuesday?

A. ₹105 thousand
B. ₹110 thousand
C. ₹115 thousand
D. ₹120 thousand

Q3. By how much was Shop A's Friday sales more than its Monday sales?

A. ₹10 thousand
B. ₹15 thousand
C. ₹20 thousand
D. ₹25 thousand

Q4. Which shop had total sales of ₹150 thousand?

A. A
B. B
C. C
D. D

Q5. By how much was Shop D's Thursday sales more than Shop B's?

A. ₹10 thousand
B. ₹15 thousand
C. ₹20 thousand
D. ₹25 thousand

Population and literacy of five villages

Village	Population	Literate	Illiterate
Rampur	5,000	3,500	1,500
Shyampur	4,000	3,000	1,000
Geetapur	6,000	4,200	1,800
Sitapur	3,000	2,100	900
Mohanpur	2,000	1,600	400

Q6. Which village has the largest population?

A. Rampur
B. Shyampur
C. Geetapur
D. Sitapur

Q7. What is the total population of all five villages?

A. 18,000
B. 20,000
C. 22,000
D. 25,000

Q8. In which village is the literacy percentage the highest?

A. Rampur
B. Shyampur
C. Mohanpur
D. Geetapur

Q9. How many people in all the villages are illiterate in total?

A. 4,600
B. 5,000
C. 5,600
D. 6,000

Q10. How many literate people are there in Sitapur?

A. 1,800
B. 2,100
C. 900
D. 3,000

Marks in five subjects (each subject out of 100)

Subject	Hindi	English	Maths	Science	Social Science
Marks	78	82	90	85	75

Q11. In which subject were the marks the highest?

A. Hindi
B. English
C. Maths
D. Science

Q12. What are the total marks in all five subjects?

A. 400
B. 410
C. 420
D. 430

Q13. By how many marks are the Maths marks more than the Hindi marks?

A. 10
B. 12
C. 14
D. 15

Q14. What is the average of the marks in all five subjects?

A. 80
B. 82
C. 84
D. 86

Q15. In how many subjects were the marks more than 80?

A. 1
B. 2
C. 3
D. 4

Production and sales (in units)

Year	Production	Sales	Unsold stock
2021	10,000	8,000	2,000
2022	12,000	10,000	2,000
2023	15,000	12,000	3,000
2024	18,000	16,000	2,000

Q16. In which year was production the highest?

A. 2021
B. 2022
C. 2023
D. 2024

Q17. What was the total sales over the four years?

A. 44,000
B. 46,000
C. 48,000
D. 50,000

Q18. How much stock remained unsold in 2023?

A. 2,000
B. 3,000
C. 4,000
D. 5,000

Q19. By how much was the sales in 2024 more than the sales in 2021?

A. 6,000
B. 7,000
C. 8,000
D. 9,000

Q20. In which year was the unsold stock the highest?

A. 2021
B. 2022
C. 2023
D. 2024

Answer Key

Q1. (D) D — Shop D's total sales were ₹175 thousand, the highest.

Q2. (B) ₹110 thousand — 25 + 35 + 20 + 30 = 110 thousand.

Q3. (C) ₹20 thousand — 40 − 20 = 20 thousand more.

Q4. (A) A — Shop A's total sales were ₹150 thousand.

Q5. (C) ₹20 thousand — 40 − 20 = 20 thousand more.

Q6. (C) Geetapur — Geetapur's population is 6,000, the largest.

Q7. (B) 20,000 — 5,000 + 4,000 + 6,000 + 3,000 + 2,000 = 20,000.

Q8. (C) Mohanpur — Mohanpur: 1,600 ÷ 2,000 = 80%; Rampur 70%, Shyampur 75%, Geetapur 70%, Sitapur 70%.

Q9. (C) 5,600 — 1,500 + 1,000 + 1,800 + 900 + 400 = 5,600.

Q10. (B) 2,100 — In Sitapur, 2,100 people are literate.

Q11. (C) Maths — In Maths there were 90 marks, the highest.

Q12. (B) 410 — 78 + 82 + 90 + 85 + 75 = 410.

Q13. (B) 12 — 90 − 78 = 12 marks more.

Q14. (B) 82 — Total 410 ÷ 5 = 82.

Q15. (C) 3 — English (82), Maths (90), Science (85) — in three subjects the marks were more than 80.

Q16. (D) 2024 — In 2024 production was 18,000, the highest.

Q17. (B) 46,000 — 8,000 + 10,000 + 12,000 + 16,000 = 46,000.

Q18. (B) 3,000 — In 2023 the unsold stock was 3,000.

Q19. (C) 8,000 — 16,000 − 8,000 = 8,000 more.

Q20. (C) 2023 — In 2023 the unsold stock was 3,000, the highest.

Appendix A: Supplementary Reasoning Practice

11 independent questions

Statements, conclusions and syllogisms connect with the deductive reasoning of the main syllabus. Questions such as dice, direction and Venn diagrams are given here for additional practice. In each question, read the given facts and the expected conclusion together.

Q1. Statement: "All students are advised to bring their admit cards to the examination centre." Which assumption is implicit?

A. Some students do not have admit cards
B. Admit cards are checked at the centre
C. Students forget things
D. The examination is difficult

Q2. At least one pen exists. Statements: "All pens are pencils. Some pencils are erasers." Which conclusion follows?

A. All pens are erasers
B. Some pens are erasers
C. Some pencils are pens
D. No pen is an eraser

Q3. Statement: "Should mobile phones be banned in the examination hall?" Argument I: "Yes, they can be used for cheating." Argument II: "No, students have to phone their parents after the examination." Which argument is strong?

A. Only I
B. Only II
C. Both I and II
D. Neither I nor II

Q4. Statement: All cats are animals. All animals are living beings. Conclusion: All cats are living beings.

A. Follows
B. Does not follow
C. Cannot be decided
D. Follows partially

Q5. If A > B, B = C and C < D, then which is true?

A. A < D
B. A > C
C. B > D
D. A = D

Q6. In a standard die, if 1 is opposite 6 and 2 is opposite 5, then which number is opposite 3?

A. 1
B. 2
C. 4
D. 6

Q7. In a class of 50 students, 30 play cricket, 25 play football and 10 play both. How many students play no game?

A. 5
B. 10
C. 15
D. 20

Q8. What is Ram's age? Statement I: Ram is 5 years older than Shyam. Statement II: Shyam is 20 years old.

A. Only I is sufficient
B. Only II is sufficient
C. I and II together are sufficient
D. Neither is sufficient

Q9. A, B and C are sitting in a row. A is not at either end. B is to the left of A. Who is in the middle?

A. A
B. B
C. C
D. Cannot be decided

Q10. What will come next in the series: 2, 6, 12, 20, 30, ?

A. 40
B. 42
C. 44
D. 48

Q11. Ram walks 3 km north, then 4 km east. How far is he from the starting point?

A. 5 km
B. 6 km
C. 7 km
D. 12 km

Answer Key

Q1. (B) Admit cards are checked at the centre — The advice is meaningful only if admit cards are checked at the centre.

Q2. (C) Some pencils are pens — An existing pen is in the group of pencils. Therefore some pencils are pens. No necessary relation between pens and erasers is given.

Q3. (A) Only I — Argument I is directly connected with the purpose of the examination; Argument II is about after the examination, not inside the hall.

Q4. (A) Follows — If all cats are animals and all animals are living beings, then all cats must be living beings.

Q5. (B) A > C — A > B and B = C, therefore A > C. Nothing can be said about A and D.

Q6. (C) 4 — The faces of a die are 1–6; 1–6 and 2–5 are opposite pairs, so the remaining pair is 3–4.

Q7. (A) 5 — Those playing at least one game: 30 + 25 − 10 = 45. Those playing no game: 50 − 45 = 5.

Q8. (C) I and II together are sufficient — Neither statement alone gives Ram's age; together they do (20 + 5 = 25).

Q9. (A) A — A is not at either end, so A must be in the middle.

Q10. (B) 42 — The differences are 4, 6, 8, 10, so the next difference is 12; 30 + 12 = 42.

Q11. (A) 5 km — By Pythagoras' theorem: $\sqrt{(3^2 + 4^2)} = \sqrt{(9 + 16)} = \sqrt{25} = 5$ km.

Appendix B: Sources and References

Selecting a name opens the related page or document.

The basis of the exam plan is the published advertisement of 2026. Documents marked "copy" belong to the Commission concerned and their available copy is on an external website. Where a news report has been used for dates, the name of the news organisation is given.

Exam Plan, Recruitment and Post-wise Conditions

- UPSSSC • Notices, advertisements, final keys and results
- PET 2026 • Advertisement 16-Exam/2026, Sections 7–12 and syllabus (copy)
- PET 2025 • Dated communiqué of the Commission on the U.P. Government portal
- Intermediate level posts • Commission's Advertisement 26-Exam/2026 (copy)
- Junior Assistant • Advertisement 12-Exam/2024 (copy)
- Separate 2022 recruitment of Junior Assistant • Commission's notice (copy)
- Dainik Jagran • 3,279 posts, September 2026 result report
- Moharir • Commission's exam plan and PET-2021 reference (copy)
- Lekhpal • Exam plan of Advertisement 02-Exam/2025 (copy)
- UPPSC • List of the Commission's recruitment examinations
- India Today • Extension of the application period in September 2026
- Hindustan Times • 2026 examination and attendance
- Aglasem • 2026 provisional key and objections
- Times of India • Lekhpal result and document verification

History and the National Movement

- NCERT • Class-wise official textbook portal
- CBSE • Ancient Indian knowledge and Aryabhata
- Census records • Diwani and 1765
- Gorakhpur District Administration • Chauri Chaura
- PIB • Dandi March and the Salt Law
- President's Secretariat • Federal scheme of the 1935 Act
- Ministry of External Affairs • Constituent Assembly and the Cabinet Mission

Geography and the Indian Economy

- NASA • The Earth's axis and the seasons
- National Geographic • Location of Everest
- NCERT • Size and extent of India
- PIB • Figures of the India State of Forest Report 2023
- Coal Controller • Geological resources of coalfields
- Time and Date • Nepal Standard Time
- NITI Aayog • Historical context of Garibi Hatao
- NITI Aayog collection • Fourth Five Year Plan
- PIB / GST Council • Rate changes of September 2025
- Gazette of India • Inflation target for 2026–31

- PIB • Four Labour Codes and the date of coming into force
- PIB • Pilot of the National Agriculture Market, 14 April 2016

Constitution, Science, Mathematics and Language

- Legislative Department • Constitution of India, Hindi text
- Department of Justice • Details of approved and working judges as on 1 November 2026
- Legislative Department • Shared High Court and Panchayati Raj
- NCERT • Acids, Bases and Salts
- American Red Cross • Red blood cell donation and ABO/Rh
- OpenStax • Order of arithmetic operations
- Department of Official Language • Hindi vocabulary and language resources
- Cambridge Grammar • at, on and in for place
- Cambridge Grammar • between and among
- British Council • Reported speech

Uttar Pradesh, Current Affairs and General Awareness

- Government of Uttar Pradesh • Gateway to departments and schemes
- PIB • Jewar International Airport, 28 March 2026
- PIB • Ganga Expressway, 29 April 2026
- ICC • Men's T20 World Cup, 8 March 2026
- The Booker Prizes • International Booker 2026
- The Booker Prizes • Booker Prize 2026
- The Booker Prizes • Booker Prize 2025
- The Booker Prizes • International Booker Prize 2025
- The Nobel Institution • Original description of the Physics Prize 2025
- Ministry of Foreign Affairs, Sri Lanka • National identity
- Government of South Africa • Three capitals
- ICC • History of the Women's Cricket World Cup
- Universities Press • Author of Wings of Fire
- Varanasi District Administration • History of the city
- ISRO • Indian Space Research Organisation
- UNFCCC • Paris Agreement

Background to the Passages and Interpretation

- World Health Organization • Age-wise physical activity
- CPWD • Rainwater harvesting and groundwater recharge