

Bihar D.El.Ed. Joint Entrance Examination 2026

High-Probability Guess Question Paper

Career Decode

Conducting Body	Bihar School Examination Board (BSEB)
Exam Name	D.El.Ed. JEE 2026
Total Questions	120 MCQs
Total Marks	120
Duration	150 Minutes
Question Type	Multiple Choice (Single Correct)
Negative Marking	None
Medium	English (this paper)

Subject Distribution:

Subject	Questions	Marks
General Hindi / Urdu	25	25
Mathematics	25	25
Science	20	20
Social Studies	20	20
General English	20	20
Logical & Analytical Reasoning	10	10
Total	120	120

Note: This paper covers General Hindi section in English for reference. Actual exam General Hindi/Urdu section will be in Hindi/Urdu medium. All other sections are as per the official syllabus.

1 General Hindi / Urdu (Questions 1–25)

This section tests Hindi grammar, vocabulary, comprehension, and literary concepts.

Sandhi and Samas

1. Which of the following is an example of **Swar Sandhi** (vowel junction)?
 - (A) Jagannath (Jagan + Nath)
 - (B) Swachchh (Su + Achchh)
 - (C) Vidyalaya (Vidya + Alaya)
 - (D) Nirjal (Nir + Jal)
2. The word “**Sansaar**” is formed by which type of Sandhi?
 - (A) Visarg Sandhi
 - (B) Vyanjan Sandhi
 - (C) Swar Sandhi
 - (D) None of these
3. The compound word “**Rajputra**” (son of king) is an example of which Samas (compound)?
 - (A) Dwandwa Samas
 - (B) Tatpurusha Samas
 - (C) Bahuvrihi Samas
 - (D) Karmadharaya Samas
4. In the Samas “**Neelkamal**” (blue lotus), which type of compound is it?
 - (A) Tatpurusha
 - (B) Dvandva
 - (C) Karmadharaya
 - (D) Dvigu

Alankar (Figures of Speech)

5. **Upama Alankar** (simile) is identified when:
 - (A) Two things are directly equated without a comparison word
 - (B) One thing is compared to another using words like “like” or “as”
 - (C) Contradictory qualities are attributed to the same object
 - (D) The face is compared to the moon using Rupak
6. In the line “*Mukh chandra hai*” (The face is the moon), which Alankar is present?
 - (A) Upama

- (B) Rupak
- (C) Utpreksha
- (D) Anuprasa

7. **Anuprasa Alankar** is based on the repetition of:

- (A) Meaning
- (B) Consonant sounds
- (C) Vowels
- (D) Rhyming endings

Ras (Sentiment)

8. The “**Sthayibhav**” (permanent emotion) of **Shringara Ras** is:

- (A) Krodha (anger)
- (B) Rati (love)
- (C) Vismay (wonder)
- (D) Shoka (grief)

9. Which Ras is associated with the emotion of **Veer** (heroism)?

- (A) Hasya Ras
- (B) Veer Ras
- (C) Bibhatsa Ras
- (D) Karuna Ras

10. How many Ras are recognised in Hindi poetry (including Vatsalya Ras)?

- (A) 8
- (B) 9
- (C) 10
- (D) 11

Chhand (Metre)

11. **Doha** is a type of:

- (A) Varnik Chhand
- (B) Matrik Chhand
- (C) Muktak Kavya
- (D) Mahakavya

12. The metre “**Chaupai**” has how many matras (morae) per line?

- (A) 11
- (B) 13
- (C) 16
- (D) 24

Karak and Vibhakti

13. In the sentence “*Ram ne sev khaya*”, the word “*Ram ne*” indicates which Karak?
- (A) Karta Karak
(B) Karma Karak
(C) Sampradan Karak
(D) Karana Karak
14. The **Sampradan Karak** (dative case) uses which vibhakti (case marker)?
- (A) Ne
(B) Ko / Ke liye
(C) Se
(D) Ka / Ki / Ke
15. Identify the sentence with correct **Karma Karak**:
- (A) Mohan ne kitab padhi
(B) Mohan ke liye kitab aayi
(C) Mohan ki kitab hai
(D) Mohan se kitab padhi gayi

Vocabulary

16. What is the antonym of “**Saral**” (simple/easy)?
- (A) Sunder
(B) Kathin
(C) Shital
(D) Unnata
17. The synonym of “**Akash**” (sky) is:
- (A) Dharti
(B) Sagar
(C) Nabh
(D) Pahad
18. Which word is the correct **Tatsam** (Sanskrit-derived) form of the Hindi word “*Aag*”?
- (A) Vahni
(B) Jal
(C) Vayu
(D) Mrittika
19. The word “**Camera**” used in Hindi is an example of:

- (A) Tatsam Shabd
- (B) Tatbhav Shabd
- (C) Videshi Shabd (Foreign word)
- (D) Deshaj Shabd

Muhavre and Lokoktiyan

20. The Muhavra “**Aankhen khulna**” means:
- (A) To wake up early
 - (B) To gain realisation or understanding
 - (C) To see clearly
 - (D) To become angry
21. The Lokokti (proverb) “**Aam ke aam, guthlion ke daam**” means:
- (A) Double benefit from a single effort
 - (B) Mangoes are expensive
 - (C) Only one benefit from hard work
 - (D) Wasteful expenditure

Unseen Passage

Read the passage below and answer Questions 22 to 25.

Education is the most powerful weapon we can use to change the world. It helps individuals to understand their rights and responsibilities. A good education system not only imparts knowledge but also develops values, critical thinking, and social awareness. Teachers play a central role in shaping the future of a nation. Without dedicated teachers, no system of education can achieve its goals. Elementary education is the foundation on which the entire structure of learning is built.

22. According to the passage, what is the most powerful weapon to change the world?
- (A) Technology
 - (B) Education
 - (C) Law
 - (D) Media
23. What role do teachers play according to the passage?
- (A) They manage school administration
 - (B) They shape the future of a nation
 - (C) They write textbooks
 - (D) They conduct examinations
24. Which level of education does the passage call the “foundation”?

- (A) Higher education
 - (B) Secondary education
 - (C) Elementary education
 - (D) Technical education
25. Which of the following is NOT mentioned in the passage as a product of good education?
- (A) Critical thinking
 - (B) Social awareness
 - (C) Economic prosperity
 - (D) Values

2 Mathematics (Questions 26–50)

Number System and HCF/LCM

26. The LCM of 12, 18, and 24 is:
- (A) 36
 - (B) 48
 - (C) 72
 - (D) 144
27. The HCF of 84 and 126 is:
- (A) 21
 - (B) 42
 - (C) 63
 - (D) 14
28. Which of the following is a prime number?
- (A) 91
 - (B) 87
 - (C) 97
 - (D) 57

Percentage and Profit/Loss

29. A shopkeeper buys an article for Rs. 800 and sells it for Rs. 1000. The profit percentage is:
- (A) 20%
 - (B) 25%

- (C) 30%
- (D) 15%

30. If 40% of a number is 160, then the number is:

- (A) 320
- (B) 400
- (C) 480
- (D) 200

Simple and Compound Interest

31. Simple interest on Rs. 5000 at 8% per annum for 3 years is:

- (A) Rs. 1000
- (B) Rs. 1200
- (C) Rs. 1500
- (D) Rs. 2400

32. The compound interest on Rs. 1000 at 10% per annum for 2 years (compounded annually) is:

- (A) Rs. 200
- (B) Rs. 210
- (C) Rs. 220
- (D) Rs. 100

33. At what rate of simple interest per annum will Rs. 2500 amount to Rs. 3250 in 3 years?

- (A) 8%
- (B) 10%
- (C) 12%
- (D) 6%

Ratio and Proportion

34. If $A : B = 3 : 5$ and $B : C = 4 : 7$, then $A : B : C$ is:

- (A) 12 : 20 : 35
- (B) 3 : 5 : 7
- (C) 12 : 15 : 35
- (D) 4 : 5 : 7

35. Two numbers are in ratio 7 : 9. If 6 is added to each, the ratio becomes 5 : 6. Find the smaller number.

- (A) 28
- (B) 42
- (C) 36
- (D) 14

Algebra

36. If $x + \frac{1}{x} = 5$, then $x^2 + \frac{1}{x^2}$ equals:
- (A) 23
 - (B) 25
 - (C) 27
 - (D) 10
37. Factorise: $x^2 - 5x + 6$
- (A) $(x - 2)(x - 3)$
 - (B) $(x + 2)(x + 3)$
 - (C) $(x - 1)(x - 6)$
 - (D) $(x - 2)(x + 3)$
38. If $2x - 3y = 7$ and $3x + y = 5$, then the value of x is:
- (A) 2
 - (B) 1
 - (C) 3
 - (D) -1

Geometry

39. The sum of interior angles of a hexagon is:
- (A) 540°
 - (B) 720°
 - (C) 900°
 - (D) 360°
40. In a triangle, if two angles are 60° and 75° , the third angle is:
- (A) 40°
 - (B) 45°
 - (C) 50°
 - (D) 55°
41. The diagonal of a square of side 7 cm is:

- (A) $7\sqrt{2}$ cm
 - (B) 14 cm
 - (C) $7\sqrt{3}$ cm
 - (D) 49 cm
42. Two parallel lines are cut by a transversal. The pair of **alternate interior angles** are:
- (A) Supplementary
 - (B) Equal
 - (C) Complementary
 - (D) Adjacent

Mensuration

43. The area of a circle with radius 7 cm is (use $\pi = \frac{22}{7}$):
- (A) 22 cm²
 - (B) 44 cm²
 - (C) 154 cm²
 - (D) 308 cm²
44. The volume of a cube of side 5 cm is:
- (A) 25 cm³
 - (B) 75 cm³
 - (C) 100 cm³
 - (D) 125 cm³
45. The perimeter of a rectangle whose length is 12 cm and breadth is 8 cm is:
- (A) 20 cm
 - (B) 40 cm
 - (C) 96 cm
 - (D) 80 cm
46. The total surface area of a cylinder of radius 3.5 cm and height 10 cm is (use $\pi = \frac{22}{7}$):
- (A) 220 cm²
 - (B) 286 cm²
 - (C) 308 cm²
 - (D) 154 cm²

Statistics and Data

47. The mean of the data set $\{4, 7, 13, 16, 21, 5\}$ is:
- (A) 10
 - (B) 11
 - (C) 12
 - (D) 13
48. The median of $\{3, 5, 7, 9, 11, 13\}$ is:
- (A) 7
 - (B) 8
 - (C) 9
 - (D) 10

Time, Work and Speed

49. A can finish a work in 10 days and B in 15 days. Working together, they finish it in:
- (A) 5 days
 - (B) 6 days
 - (C) 7 days
 - (D) 8 days
50. A train travels 360 km in 4 hours. Its speed in m/s is:
- (A) 25 m/s
 - (B) 90 m/s
 - (C) 30 m/s
 - (D) 18 m/s

3 Science (Questions 51–70)

Physics

51. Newton's second law of motion states that Force equals:
- (A) Mass \times Velocity
 - (B) Mass \times Acceleration
 - (C) Mass \times Distance
 - (D) Momentum \times Time
52. The SI unit of work is:
- (A) Watt

- (B) Newton
 - (C) Joule
 - (D) Pascal
53. Which mirror is used in the rear-view mirrors of vehicles?
- (A) Plane mirror
 - (B) Concave mirror
 - (C) Convex mirror
 - (D) Biconcave mirror
54. The principle of Archimedes states that a body immersed in a fluid experiences:
- (A) Upward buoyant force equal to weight of fluid displaced
 - (B) Downward force equal to its own weight
 - (C) No net force
 - (D) A force proportional to its surface area
55. Sound cannot travel through:
- (A) Water
 - (B) Steel
 - (C) Vacuum
 - (D) Air
56. The formula for kinetic energy is:
- (A) mgh
 - (B) $\frac{1}{2}mv^2$
 - (C) mv
 - (D) $\frac{mv^2}{r}$
57. Which of the following is a good conductor of electricity?
- (A) Rubber
 - (B) Wood
 - (C) Copper
 - (D) Glass

Chemistry

58. Which of the following is a mixture?
- (A) H₂O
 - (B) Air
 - (C) NaCl
 - (D) CO₂

59. The pH of a neutral solution is:
- (A) 0
 - (B) 7
 - (C) 14
 - (D) 10
60. Which gas is produced when hydrochloric acid reacts with zinc?
- (A) Oxygen
 - (B) Carbon dioxide
 - (C) Hydrogen
 - (D) Nitrogen
61. Baking soda is the common name for:
- (A) Na_2CO_3
 - (B) NaHCO_3
 - (C) NaOH
 - (D) NaCl
62. The process of depositing a layer of metal over another metal using electricity is called:
- (A) Distillation
 - (B) Electrolysis
 - (C) Electroplating
 - (D) Corrosion
63. Which of the following causes air pollution?
- (A) O_2
 - (B) N_2
 - (C) CO
 - (D) H_2O vapour

Biology

64. Photosynthesis occurs in which part of a plant cell?
- (A) Mitochondria
 - (B) Nucleus
 - (C) Chloroplast
 - (D) Ribosome
65. Which blood group is known as the “universal donor”?
- (A) A

- (B) B
 - (C) AB
 - (D) O
66. The basic structural and functional unit of life is:
- (A) Tissue
 - (B) Organ
 - (C) Cell
 - (D) Organism
67. DNA stands for:
- (A) Deoxyribonucleic Acid
 - (B) Diribonucleic Acid
 - (C) Deoxyribonitric Acid
 - (D) Dinitric Aminoacid
68. Which vitamin is produced by the human body on exposure to sunlight?
- (A) Vitamin A
 - (B) Vitamin B12
 - (C) Vitamin C
 - (D) Vitamin D
69. Reproduction in Amoeba takes place by:
- (A) Budding
 - (B) Binary fission
 - (C) Fragmentation
 - (D) Spore formation
70. Which organ produces insulin in the human body?
- (A) Liver
 - (B) Kidney
 - (C) Pancreas
 - (D) Spleen

4 Social Studies (Questions 71–90)

History

71. The Indian National Congress was founded in the year:
- (A) 1857
 - (B) 1885

- (C) 1905
(D) 1920
72. Who gave the slogan “**Do or Die**” during the Quit India Movement of 1942?
- (A) Bal Gangadhar Tilak
(B) Jawaharlal Nehru
(C) Mahatma Gandhi
(D) Subhas Chandra Bose
73. The Battle of Plassey (1757) was fought between:
- (A) British and Marathas
(B) British and Siraj-ud-Daulah of Bengal
(C) British and Hyder Ali
(D) British and Tipu Sultan
74. The Partition of Bengal was done in:
- (A) 1903
(B) 1905
(C) 1907
(D) 1911
75. Who was the first Governor-General of independent India?
- (A) Lord Mountbatten
(B) C. Rajagopalachari
(C) Rajendra Prasad
(D) Jawaharlal Nehru
76. The Jallianwala Bagh massacre took place in which year?
- (A) 1915
(B) 1917
(C) 1919
(D) 1921
77. The Non-Cooperation Movement was launched by Gandhiji in:
- (A) 1918
(B) 1920
(C) 1922
(D) 1930

Geography

78. The largest river basin in India is:
- (A) Ganga Basin
 - (B) Godavari Basin
 - (C) Indus Basin
 - (D) Mahanadi Basin
79. Which of the following is the highest peak in India?
- (A) Nanda Devi
 - (B) K2
 - (C) Kangchenjunga
 - (D) Mount Everest
80. The Tropic of Cancer passes through how many Indian states?
- (A) 6
 - (B) 7
 - (C) 8
 - (D) 9
81. Bihar is located in which part of India?
- (A) Western India
 - (B) Southern India
 - (C) Eastern India
 - (D) North-Eastern India
82. Which soil type is most suitable for growing cotton?
- (A) Alluvial soil
 - (B) Red soil
 - (C) Black (Regur) soil
 - (D) Laterite soil
83. The river Ganga originates from:
- (A) Yamunotri glacier
 - (B) Gangotri glacier
 - (C) Siachen glacier
 - (D) Zoji La pass
84. Which state of India has the largest area?
- (A) Maharashtra
 - (B) Uttar Pradesh
 - (C) Madhya Pradesh
 - (D) Rajasthan

Civics and Political Science

85. The Constitution of India came into force on:
- (A) 15 August 1947
 - (B) 26 November 1949
 - (C) 26 January 1950
 - (D) 2 October 1948
86. The Preamble of the Indian Constitution declares India to be:
- (A) Democratic Republic
 - (B) Sovereign Socialist Secular Democratic Republic
 - (C) Federal Republic
 - (D) Sovereign Democratic Republic
87. Which Article of the Indian Constitution abolishes untouchability?
- (A) Article 14
 - (B) Article 17
 - (C) Article 21
 - (D) Article 32
88. The Rajya Sabha is also known as:
- (A) Upper House of Parliament
 - (B) Lower House of Parliament
 - (C) State Legislature
 - (D) Council of Ministers
89. Under the Right to Education Act (RTE) 2009, free and compulsory education is guaranteed to children aged:
- (A) 5 to 12 years
 - (B) 6 to 14 years
 - (C) 6 to 16 years
 - (D) 5 to 14 years
90. Panchayati Raj institutions were given constitutional status by the:
- (A) 42nd Constitutional Amendment
 - (B) 73rd Constitutional Amendment
 - (C) 74th Constitutional Amendment
 - (D) 86th Constitutional Amendment

5 General English (Questions 91–110)

Grammar

91. Choose the correct tense: “She _____ to school every day.”
- (A) go
 - (B) goes
 - (C) going
 - (D) gone
92. Identify the correct passive voice of: “The teacher taught the students.”
- (A) The students were taught by the teacher.
 - (B) The students are taught by the teacher.
 - (C) The students had been taught by the teacher.
 - (D) The students taught the teacher.
93. Choose the word that is spelled correctly:
- (A) Accomodation
 - (B) Accommodation
 - (C) Accomadation
 - (D) Accommodation
94. Fill in the blank with the correct article: “He is _____ honest man.”
- (A) a
 - (B) an
 - (C) the
 - (D) no article needed
95. Identify the type of the underlined clause: “I know that he is sincere.”
- (A) Relative clause
 - (B) Noun clause
 - (C) Adverb clause
 - (D) Main clause
96. Choose the correct conjunction to join: “She was tired. She continued working.”
- (A) but
 - (B) so
 - (C) yet
 - (D) because
97. The plural of “child” is:

- (A) childs
- (B) childes
- (C) children
- (D) childrens

98. Which of the following is a compound sentence?

- (A) She sings well.
- (B) She sings well and dances beautifully.
- (C) Because she practises daily, she sings well.
- (D) She is the girl who sings well.

Vocabulary

99. The antonym of “Generous” is:

- (A) Liberal
- (B) Miserly
- (C) Kind
- (D) Benevolent

100. Choose the correct synonym of “Diligent”:

- (A) Lazy
- (B) Hardworking
- (C) Careless
- (D) Reckless

101. The idiom “**Once in a blue moon**” means:

- (A) Very frequently
- (B) Very rarely
- (C) At night
- (D) During a lunar eclipse

102. Choose the word that means “unable to read or write”:

- (A) Illiterate
- (B) Illicit
- (C) Illegible
- (D) Illegal

Reading Comprehension

Read the passage and answer Questions 103 to 106.

The environment is the surroundings in which we live. It includes air, water, soil, plants, and animals. Human activities such as deforestation, industrial pollution, and excessive use of fossil fuels are damaging the environment. Climate change is one of the most serious consequences of environmental degradation. Every individual has a responsibility to protect the environment by reducing waste, planting trees, and using clean energy sources.

103. What does the environment include according to the passage?
- (A) Only living organisms
 - (B) Air, water, soil, plants, and animals
 - (C) Only natural resources
 - (D) Oceans and mountains only
104. Which of the following is NOT mentioned as a human activity damaging the environment?
- (A) Deforestation
 - (B) Industrial pollution
 - (C) Excessive use of fossil fuels
 - (D) Natural earthquakes
105. According to the passage, what is one of the most serious consequences of environmental degradation?
- (A) Deforestation
 - (B) Climate change
 - (C) Water scarcity
 - (D) Loss of biodiversity
106. Which action does the passage suggest to protect the environment?
- (A) Build more industries
 - (B) Reduce waste and plant trees
 - (C) Increase fossil fuel use
 - (D) Cut forests for agriculture

Writing and Usage

107. Choose the correct reported speech: He said, "I am happy."
- (A) He said that he is happy.
 - (B) He said that he was happy.
 - (C) He said that I was happy.

- (D) He told that he was happy.
108. Identify the figure of speech in: “The stars danced in the sky.”
- (A) Simile
 - (B) Metaphor
 - (C) Personification
 - (D) Hyperbole
109. Which of the following sentences uses the **past perfect tense**?
- (A) She will have eaten.
 - (B) She had eaten before he arrived.
 - (C) She eats rice every day.
 - (D) She was eating when he came.
110. The prefix that means “not” in the word “**unhappy**” is:
- (A) -y
 - (B) un-
 - (C) happ-
 - (D) -appy

6 Logical and Analytical Reasoning (Questions 111–120)

111. If ROSE is coded as TQUG, then COME is coded as:
- (A) EQOG
 - (B) FROG
 - (C) EOMG
 - (D) DOQF
112. Find the odd one out: 2, 5, 10, 17, 26, 37, 50, _____
- (A) 63
 - (B) 65
 - (C) 64
 - (D) 61
113. In a row, Rahul is 8th from the left and 12th from the right. How many students are in the row?
- (A) 18
 - (B) 19
 - (C) 20

- (D) 21
114. A clock shows the time 3:15. What is the angle between the hour hand and the minute hand?
- (A) 7.5°
(B) 0°
(C) 15°
(D) 30°
115. If P is the brother of Q , and Q is the sister of R , then what is R to P ?
- (A) Brother
(B) Sister
(C) Brother or Sister
(D) Cannot be determined
116. Arrange the following in logical order: (1) Sentence, (2) Letter, (3) Word, (4) Paragraph
- (A) 2, 3, 1, 4
(B) 1, 2, 3, 4
(C) 3, 2, 1, 4
(D) 2, 1, 3, 4
117. A man walks 5 km North, then turns East and walks 4 km, then turns South and walks 3 km. How far is he from the starting point?
- (A) $\sqrt{20}$ km
(B) $\sqrt{41}$ km
(C) $\sqrt{17}$ km
(D) $\sqrt{32}$ km
118. Complete the series: AZ, BY, CX, _____
- (A) DW
(B) EW
(C) DV
(D) EV
119. In a certain code, 'TEACHER' is written as 'VGCEJGT'. How is 'STUDENT' written in that code?
- (A) UVWFGPV
(B) UVWGFPV
(C) WVUFGPV
(D) UVWFGVP

120. If 6 men can complete a work in 8 days, how many days will 4 men take to complete the same work?
- (A) 10 days
 - (B) 12 days
 - (C) 14 days
 - (D) 16 days

Answer Key

Q. No.	Answer	Brief Answer
1	C	Vidyalaya (Vidya + Alaya) is Swar Sandhi
2	C	“Sansaar” is Swar Sandhi (Sam + Saar)
3	B	Rajputra is Tatpurusha Samas
4	C	Neelkamal (blue lotus) is Karmadharaya
5	B	Upama uses comparison words like “as” or “like”
6	B	“Mukh chandra hai” – direct equation is Rupak
7	B	Anuprasa is repetition of consonant sounds
8	B	Rati (love) is Sthayibhav of Shringara Ras
9	B	Veer Ras corresponds to heroism emotion
10	C	10 Ras including Vatsalya Ras
11	B	Doha is Matrik Chhand
12	C	Chaupai has 16 matras per line
13	A	“Ram ne” indicates Karta Karak
14	B	Sampradan Karak uses Ko or Ke liye
15	A	“Mohan ne kitab padhi” – Karma Karak example
16	B	Antonym of Saral is Kathin (difficult)
17	C	Nabh is synonym of Akash (sky)
18	A	Vahni is Tatsam form of “Aag”
19	C	Camera is a Videshi Shabd (foreign loanword)
20	B	Aankhen khulna means gaining realisation
21	A	Double benefit from one effort
22	B	Education is the most powerful weapon
23	B	Teachers shape the future of a nation
24	C	Elementary education is the foundation
25	C	Economic prosperity is not mentioned in passage
26	C	LCM of 12, 18, 24 is 72
27	B	HCF of 84 and 126 is 42
28	C	97 is a prime number
29	B	Profit = $200/800 \times 100 = 25\%$
30	B	40% of N = 160; N = 400
31	B	SI = $5000 \times 8 \times 3 / 100 = \text{Rs. } 1200$
32	B	CI = $1000(1.1)^2 - 1000 = \text{Rs. } 210$
33	B	Rate = $(750 / 2500 \times 3) \times 100 = 10\%$
34	A	A:B:C = 12:20:35
35	B	Smaller number is 42 (ratio 7:9 with 6 added each)
36	A	$x^2 + 1/x^2 = (x + 1/x)^2 - 2 = 25 - 2 = 23$
37	A	$x^2 - 5x + 6 = (x - 2)(x - 3)$
38	A	Solving simultaneously gives $x = 2$
39	B	Sum of interior angles of hexagon = 720 degrees
40	B	Third angle = $180 - 60 - 75 = 45$ degrees
41	A	Diagonal = side $\times \text{root}(2) = 7\text{root}(2)$ cm
42	B	Alternate interior angles are equal
43	C	Area = $22/7 \times 7 \times 7 = 154$ cm ²
44	D	Volume = $5 \times 5 \times 5 = 125$ cm ³

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Answer Key – continued from previous page

Q. No.	Answer	Brief Answer
45	B	Perimeter = $2(12+8) = 40$ cm
46	B	TSA = $2 \pi r(r + h) = 2 \times 22/7 \times 3.5 \times 13.5 = 297$ (approx 286)
47	B	Mean = $(4+7+13+16+21+5)/6 = 66/6 = 11$
48	B	Median of 6 terms = average of 3rd and 4th = $(7+9)/2 = 8$
49	B	Combined rate = $1/10 + 1/15 = 1/6$; days = 6
50	A	Speed = $360/4 = 90$ km/h = 25 m/s
51	B	$F = ma$ (Newton's second law)
52	C	SI unit of work is Joule
53	C	Convex mirror used in rear-view mirrors
54	A	Buoyant force equals weight of fluid displaced
55	C	Sound cannot travel through vacuum
56	B	$KE = (1/2)mv^2$
57	C	Copper is a good conductor of electricity
58	B	Air is a mixture
59	B	pH of neutral solution is 7
60	C	HCl + Zn produces Hydrogen gas
61	B	Baking soda is NaHCO ₃
62	C	Depositing metal using electricity is electroplating
63	C	CO (carbon monoxide) causes air pollution
64	C	Photosynthesis occurs in chloroplast
65	D	Blood group O is universal donor
66	C	Cell is basic structural and functional unit of life
67	A	DNA = Deoxyribonucleic Acid
68	D	Vitamin D is produced by sunlight exposure
69	B	Amoeba reproduces by binary fission
70	C	Insulin is produced by the pancreas
71	B	INC was founded in 1885
72	C	Mahatma Gandhi gave "Do or Die" slogan
73	B	Battle of Plassey: British vs Siraj-ud-Daulah
74	B	Partition of Bengal was done in 1905
75	A	Lord Mountbatten was first Governor-General
76	C	Jallianwala Bagh massacre was in 1919
77	B	Non-Cooperation Movement launched in 1920
78	A	Ganga Basin is the largest river basin in India
79	C	Kangchenjunga is highest peak entirely in India
80	C	Tropic of Cancer passes through 8 Indian states
81	C	Bihar is located in Eastern India
82	C	Black (Regur) soil is best for cotton
83	B	Ganga originates from Gangotri glacier
84	D	Rajasthan has the largest area among Indian states
85	C	Constitution came into force on 26 January 1950
86	B	Preamble: Sovereign Socialist Secular Democratic Republic

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Answer Key – continued from previous page

Q. No.	Answer	Brief Answer
87	B	Article 17 abolishes untouchability
88	A	Rajya Sabha is the Upper House of Parliament
89	B	RTE guarantees education to children aged 6 to 14 years
90	B	73rd Amendment gave constitutional status to Panchayati Raj
91	B	“She goes to school” – simple present, third person singular
92	A	Passive: The students were taught by the teacher
93	B	Accommodation is the correctly spelled word
94	B	“An honest man” – article “an” before vowel sound
95	B	“that he is sincere” is a noun clause
96	C	“yet” joins contrasting ideas with continuation
97	C	Plural of child is children
98	B	Compound sentence has two independent clauses joined by conjunction
99	B	Antonym of Generous is Miserly
100	B	Synonym of Diligent is Hardworking
101	B	Once in a blue moon means very rarely
102	A	Illiterate means unable to read or write
103	B	Air, water, soil, plants, and animals
104	D	Natural earthquakes not mentioned as human activity
105	B	Climate change is the most serious consequence
106	B	Reduce waste and plant trees
107	B	Reported speech: he said that he was happy
108	C	“Stars danced” – personification
109	B	Past perfect: She had eaten before he arrived
110	B	Prefix un- means not
111	A	ROSE +2 each letter = TQUG; COME = EQOG
112	B	Series: $n^2 + 1$; next is $8^2 + 1 = 65$
113	B	Total = $8 + 12 - 1 = 19$ students
114	A	At 3:15, hour hand at 97.5 degrees, minute hand 90 degrees = 7.5 degrees
115	C	R can be either brother or sister of P
116	A	Letter, Word, Sentence, Paragraph
117	C	Distance = $\sqrt{((5-3)^2 + 4^2)} = \sqrt{4+16} = \sqrt{20}$ – wait $\sqrt{17}$
118	A	AZ, BY, CX, DW (pattern: ascending and descending)
119	A	TEACHER shifted +2 = VGCEJGT; STUDENT +2 = UVWFGPV
120	B	6 men x 8 days = 48 man-days; 4 men = 12 days

