

RRB JE / DMS — General Intelligence & Reasoning

Complete Topic-wise Notes & 100 Practice Questions

CEN 04/2026 | STAGE 1 (CBT)

Analogies • Alphabetical & Number Series • Coding-Decoding • Mathematical Operations • Relationships •
Syllogism • Jumbling • Venn Diagram • Data Interpretation & Sufficiency • Conclusions & Decision Making •
Similarities & Differences • Analytical Reasoning • Classification • Directions • Statement-Arguments & Assumptions

Prepared for Entri App — RRB JE/DMS Exam Preparation Series

Part A — Concept Notes (All Topics)

Analogies

- Identify the relationship between the first pair (synonym, antonym, part-whole, function, cause-effect, category) and apply the same logic to the second pair.
- Common types: word-based, letter-based (shift patterns), and number-based (arithmetic/algebraic relation).

Alphabetical and Number Series

- Check for common differences, ratios, squares/cubes, or alternating patterns between consecutive terms.
- For letter series, convert letters to their alphabet positions (A=1...Z=26) to spot the numeric pattern.

Try: constant difference → constant ratio → squares/cubes → alternate pattern → two interleaved series

Coding and Decoding

- Common code types: letter shifting (+1, +2...), letter reversal, substitution codes, and numeric coding (position-based).
- Always verify the rule using the given example before applying it to the new word.

Mathematical Operations

- Symbols are reassigned new meanings (e.g., '+' means 'x'). Substitute carefully, then solve using BODMAS.
- For "if a * b = ..." type questions, deduce the pattern from given examples, then apply it to the asked pair.

Relationships (Blood Relations)

- Draw a family tree/diagram as you read the statement — track generation and gender carefully.
- Key phrases: "only son/daughter", "grandson of my mother" (= own son or nephew), "wife of my brother" (= sister-in-law).

Syllogism

- Statements: Universal Affirmative (All A are B), Universal Negative (No A is B), Particular Affirmative (Some A are B), Particular Negative (Some A are not B).
- A conclusion follows only if the middle term is distributed in at least one premise and standard syllogism rules are met — use Venn diagrams to verify.

Jumbling

- Word jumbles: rearrange scrambled letters into a meaningful word by spotting common prefixes/suffixes and vowel-consonant patterns.
- Sentence/sequence jumbles: arrange logically by chronology, cause-effect, or hierarchy (e.g., birth→growth stages).

Venn Diagram

- Overlapping circles show a partial relationship (some elements common); nested circles show one category is a subset of another; separate circles show no relationship.
- For numerical Venn problems: $|A \cup B| = |A| + |B| - |A \cap B|$.

Data Interpretation and Sufficiency

- DI: read the table/chart carefully before calculating — note units, totals, and categories.
- Data Sufficiency: decide if Statement I alone, Statement II alone, both together, or neither is enough to answer the question — do not solve the actual value unless required.

Conclusions and Decision Making

- A valid conclusion must follow logically and directly from the given statement(s), without assuming extra information.
- For "courses of action" questions, the suggested action must be practical, directly related, and a reasonable response to the problem stated.

Similarities and Differences

- Find the common property (category, property, pattern) shared by most items; the item that breaks this pattern is the odd one out.
- For numbers, check: prime/composite, perfect square/cube, odd/even, or a specific formula pattern.

Analytical Reasoning

- Seating arrangement (linear/circular), ranking, and puzzle-based questions — represent given clues visually (row/circle diagram) before answering.
- For circular arrangements facing the center, "left" and "right" are reversed compared to facing outward — read the question carefully.

Classification

- Group items by a shared category (fruit, metal, shape, sport, etc.); the item from a different category is the odd one.

Directions

- Standard directions: N, S, E, W and NE, NW, SE, SW. A right turn while facing North leads to East; a left turn leads to West (and so on, rotating clockwise/counter-clockwise).
- For "distance from start" questions, use the Pythagoras theorem when the net movement forms a right angle.

Distance = $\sqrt{(\text{horizontal displacement}^2 + \text{vertical displacement}^2)}$

Statement — Arguments and Assumptions

- A "strong" argument is directly relevant, logical, and based on facts; a "weak" argument is superficial, irrelevant, or overgeneralized.
- An assumption is an implicit, unstated premise the statement takes for granted — it must be something necessarily true for the statement to make sense, not something stated directly.

Part B — Practice Question Paper (100 Questions)

RRB JE/DMS General Intelligence & Reasoning — Practice Set

Questions: 100 | Pattern: RRB JE CBT-1 Objective Type
Answer key given in Part C

Analogies

- Q1.** CAT : KITTEN :: DOG : ?
(A) Puppy (B) Cub (C) Calf (D) Foal
- Q2.** Doctor : Hospital :: Teacher : ?
(A) Student (B) School (C) Book (D) Class
- Q3.** 4 : 16 :: 6 : ?
(A) 24 (B) 30 (C) 36 (D) 42
- Q4.** Pen : Write :: Knife : ?
(A) Sharp (B) Cut (C) Kitchen (D) Blade
- Q5.** BDF : CEG :: HJL : ?
(A) IKM (B) IJM (C) HKM (D) IKN
- Q6.** 7 : 50 :: 9 : ?
(A) 80 (B) 81 (C) 82 (D) 83
- Q7.** Author : Book :: Sculptor : ?
(A) Chisel (B) Statue (C) Stone (D) Museum

Alphabetical and Number Series

- Q8.** Find the next term: 2, 6, 12, 20, 30, ?
(A) 40 (B) 42 (C) 44 (D) 46
- Q9.** Find the missing term: 3, 9, 27, 81, ?
(A) 162 (B) 216 (C) 243 (D) 324
- Q10.** B, D, G, K, ?
(A) N (B) O (C) P (D) Q
- Q11.** Find the next number: 1, 4, 9, 16, 25, ?
(A) 30 (B) 32 (C) 36 (D) 49
- Q12.** AZ, BY, CX, ?
(A) DW (B) DV (C) EW (D) DX
- Q13.** Find the odd term: 2, 5, 10, 17, 26, 36
(A) 5 (B) 10 (C) 26 (D) 36
- Q14.** Find the next term: 5, 11, 23, 47, ?
(A) 89 (B) 93 (C) 95 (D) 97

Coding and Decoding

- Q15.** If CAT is coded as DBU, how is DOG coded?
(A) EPH (B) EPG (C) DPH (D) EQH
- Q16.** If MONKEY is written as NPOLFZ, how is TIGER coded?
(A) UJHFS (B) UJHFR (C) TJHFS (D) UIHFS
- Q17.** If PAPER is written as QBQFS, how is PENCIL written?
(A) QFODJM (B) QFODIM (C) QFOCJM (D) QGODJM
- Q18.** If A=1, B=2 ... Z=26, find the code for the word 'CAB'.
(A) 3,1,2 (B) 3,2,1 (C) 1,2,3 (D) 2,1,3
- Q19.** If 'SUN' is coded as '8-6-13' (rule: value=27–position), code 'SKY' using the same rule.
(A) 8-16-2 (B) 8-15-2 (C) 9-16-2 (D) 8-16-3
- Q20.** If GARDEN is coded as HBSEFO, how would FLOWER be coded?
(A) GMPXFS (B) GMQXFS (C) GMPXFR (D) FMPXFS
- Q21.** If 'RIVER' is written as 'REVIR' (reversed), how is 'MOUNTAIN' written in the same code?
(A) NIATNUOM (B) NIATNOUM (C) NAITNUOM (D) NIATUNOM

Mathematical Operations

- Q22.** If '+' means '÷', '–' means '×', '×' means '–', '÷' means '+', find: $20 - 4 \times 3 \div 6 + 2$
(A) 78 (B) 80 (C) 82 (D) 84
- Q23.** If A means '+', B means '–', C means '×', D means '÷', find: 16 D 4 C 3 A 5 B 2
(A) 13 (B) 15 (C) 17 (D) 19
- Q24.** If $a*b = a^2 - b^2$, find the value of $8 * 4$.
(A) 44 (B) 46 (C) 48 (D) 50
- Q25.** If P denotes '÷', Q denotes '×', R denotes '+', S denotes '–', evaluate: 18 Q 3 R 12 P 4 S 2
(A) 53 (B) 55 (C) 57 (D) 59
- Q26.** Select the correct signs to replace * in: $6 * 2 * 3 = 15$
(A) ×, + (B) +, × (C) –, × (D) ÷, +

- Q27.** If $5 \& 3 = 34$ and $7 \& 2 = 53$ ($a \& b = a^2 + b^2$), find $4 \& 6$.
(A) 48 (B) 50 (C) 52 (D) 54
- Q28.** Evaluate using BODMAS: $15 + 6 \div 3 \times 2 - 4$
(A) 13 (B) 15 (C) 17 (D) 19

Relationships (Blood Relations)

- Q29.** Pointing to a photograph, a man said, "She is the daughter of my grandfather's only son." How is the woman related to the man (assuming he is not the only son)?
(A) Mother (B) Sister (C) Daughter (D) Aunt
- Q30.** A is B's sister. C is B's mother. D is C's father. E is D's mother. How is A related to D?
(A) Granddaughter (B) Daughter (C) Grandmother (D) Niece
- Q31.** Introducing a man, a woman said, "His wife is the only daughter of my father." How is the woman related to the man?
(A) Sister (B) Mother (C) Wife (D) Daughter
- Q32.** P is the brother of Q. Q is the sister of R. R is the father of S. How is P related to S?
(A) Father (B) Uncle (C) Brother (D) Grandfather
- Q33.** X is the son of Y. Y is the mother of Z. Z is the father of W. How is X related to W?
(A) Father (B) Uncle (C) Grandfather (D) Brother
- Q34.** Rahul said, "This girl is the wife of the grandson of my mother." How is the girl related to Rahul?
(A) Daughter (B) Daughter-in-law (C) Sister (D) Niece
- Q35.** A's father is B. B's sister is C. C's son is D. How is D related to A?
(A) Brother (B) Cousin (C) Nephew (D) Uncle

Syllogism

- Q36.** Statements: All cats are dogs. All dogs are birds. Conclusions: I. All cats are birds. II. Some birds are cats.
(A) Only I follows (B) Only II follows (C) Both I and II follow (D) Neither follows
- Q37.** Statements: Some pens are books. All books are papers. Conclusions: I. Some pens are papers. II. All papers are books.
(A) Only I follows (B) Only II follows (C) Both follow (D) Neither follows
- Q38.** Statements: No man is a stone. All stones are hard. Conclusions: I. No hard thing is a man. II. No man is hard.
(A) Only I follows (B) Only II follows (C) Both follow (D) Neither follows
- Q39.** Statements: All flowers are plants. Some plants are trees. Conclusions: I. Some trees are flowers. II. Some plants are flowers.
(A) Only I follows (B) Only II follows (C) Both follow (D) Neither follows
- Q40.** Statements: All squares are rectangles. All rectangles are quadrilaterals. Conclusions: I. All squares are quadrilaterals. II. Some quadrilaterals are squares.
(A) Only I (B) Only II (C) Both (D) Neither
- Q41.** Statements: Some doctors are engineers. Some engineers are teachers. Conclusion: Some doctors are teachers.
(A) Follows (B) Does not follow
- Q42.** Statements: All birds are animals. No animal is a plant. Conclusions: I. No bird is a plant. II. No plant is a bird.
(A) Only I (B) Only II (C) Both I and II (D) Neither

Jumbling

- Q43.** Rearrange 'LOHOSC' to form a meaningful word.
(A) SCHOOL (B) SCOHOL (C) CHOOOLS (D) HOOLSC
- Q44.** Rearrange 'TNELPHAE' to form a meaningful word.
(A) ELEPHANT (B) ELEPAHNT (C) ELAPHENT (D) EPLEHANT
- Q45.** Arrange in a meaningful sequence: 1.Marriage 2.Birth 3.Education 4.Death 5.Employment
(A) 2,3,5,1,4 (B) 2,3,1,5,4 (C) 2,5,3,1,4 (D) 3,2,5,1,4
- Q46.** Rearrange 'CIEECNS' to form a meaningful word.
(A) SCIENCE (B) SICENCE (C) CEINECS (D) ECSINCE
- Q47.** Arrange in logical order: 1.Seed 2.Tree 3.Flower 4.Fruit 5.Plant
(A) 1,5,2,3,4 (B) 1,2,5,3,4 (C) 5,1,2,3,4 (D) 1,5,3,2,4
- Q48.** Rearrange 'YRALIBR' to form a meaningful word.
(A) LIBRARY (B) LIBRRAY (C) LIRARBY (D) LYBRARI
- Q49.** Arrange in a meaningful order: 1.Word 2.Sentence 3.Letter 4.Paragraph 5.Chapter
(A) 3,1,2,4,5 (B) 1,3,2,4,5 (C) 3,2,1,4,5 (D) 3,1,4,2,5

Venn Diagram

- Q50.** Which Venn diagram best represents: Doctors, Men, Indians?
(A) Three separate circles (B) Three intersecting circles (C) One circle inside another (D) Two intersecting, third separate
- Q51.** Which Venn diagram represents: Animals, Dogs, Cats?
(A) Two overlapping circles inside one big circle (B) Two non-overlapping circles inside one big circle (C) Three overlapping circles (D) Three separate circles
- Q52.** Which Venn diagram represents: Mother, Woman, Doctor?
(A) Three separate circles (B) Mother and Doctor overlapping within Woman (C) Mother inside Doctor inside Woman (D) Woman inside Mother inside Doctor
- Q53.** In a class of 50 students, 30 play cricket, 25 play football, 15 play both. How many play neither?
(A) 8 (B) 10 (C) 12 (D) 15
- Q54.** In a survey, 60 people like tea, 50 like coffee, 20 like both. How many like only tea?
(A) 30 (B) 35 (C) 40 (D) 45

- Q55.** Out of 100 students, 40 play chess, 30 play carrom, 10 play both. How many play neither?
(A) 35 (B) 40 (C) 45 (D) 50
- Q56.** Which Venn diagram best represents: Table, Furniture, Wood?
(A) Table inside Furniture, Wood overlapping Furniture (B) All three separate (C) All three overlapping equally (D) Wood inside Table inside Furniture

Data Interpretation and Sufficiency

- Q57.** A school has 5 sections with students: A-45, B-38, C-52, D-41, E-34. What is the total number of students?
(A) 205 (B) 210 (C) 215 (D) 220
- Q58.** Using the same data, find the average number of students per section.
(A) 40 (B) 41 (C) 42 (D) 43
- Q59.** Using the same data, which section has the highest number of students?
(A) A (B) B (C) C (D) D
- Q60.** Using the same data, find the difference between the highest and lowest section strength.
(A) 16 (B) 18 (C) 20 (D) 22
- Q61.** Data Sufficiency — What is the age of Ram? I: Ram is 5 years older than Shyam. II: Shyam is 20 years old.
(A) Statement I alone is sufficient (B) Statement II alone is sufficient (C) Both together are sufficient, but neither alone (D) Each statement alone is sufficient
- Q62.** Data Sufficiency — Is $x > y$? I: $x + 3 > y + 3$. II: x is a positive number.
(A) Statement I alone is sufficient (B) Statement II alone is sufficient (C) Both together are needed (D) Neither is sufficient
- Q63.** Data Sufficiency — What is the value of N? I: N is a prime number less than 10. II: N is an even number.
(A) Statement I alone is sufficient (B) Statement II alone is sufficient (C) Both together are sufficient, but neither alone (D) Neither statement is sufficient even together

Conclusions and Decision Making

- Q64.** Statement: The government has announced subsidies for electric vehicles. Which is a likely effect?
(A) Petrol vehicle sales will increase (B) Electric vehicle demand will likely rise (C) Public transport will be banned (D) No effect on the automobile sector
- Q65.** Statement: All employees must complete training by Friday or face a salary deduction. Conclusion: Some employees may complete training after Friday and accept the deduction. Is this conclusion valid?
(A) Valid (B) Invalid (C) Cannot be determined (D) Irrelevant
- Q66.** Statement: If it rains, the outdoor event will be shifted indoors. It is raining today. Conclusion: The event will be shifted indoors.
(A) Follows (B) Does not follow (C) Cannot be determined (D) Contradicts statement
- Q67.** A company must choose between Supplier X (lower cost, slower delivery) and Supplier Y (higher cost, faster delivery) for an urgent deadline. Which should they choose?
(A) Supplier X (B) Supplier Y (C) Neither (D) Cannot be determined
- Q68.** Problem: Road accidents have increased sharply. Courses of Action: I. Increase traffic police. II. Ban all vehicles in the city. Which follow(s) logically?
(A) Only I (B) Only II (C) Both I and II (D) Neither
- Q69.** Statement: Only candidates scoring above 60% are eligible for interview. Ravi scored 58%. Conclusion: Ravi is not eligible.
(A) Follows (B) Does not follow (C) Cannot be determined (D) Ambiguous
- Q70.** Statement: Fuel price increase raises transport cost, which raises the price of goods. Fuel prices have increased sharply. Conclusion: Goods prices are likely to increase.
(A) Follows (B) Does not follow (C) Cannot be determined (D) Contradicts

Similarities and Differences

- Q71.** Find the odd one out: Apple, Mango, Potato, Banana
(A) Apple (B) Mango (C) Potato (D) Banana
- Q72.** Find the odd one out: Triangle, Square, Circle, Cube
(A) Triangle (B) Square (C) Circle (D) Cube
- Q73.** Find the odd one out: 8, 27, 64, 100, 125
(A) 27 (B) 64 (C) 100 (D) 125
- Q74.** Find the odd one out: Delhi, Mumbai, Kolkata, Sikkim
(A) Delhi (B) Mumbai (C) Kolkata (D) Sikkim
- Q75.** Find the odd one out: Violin, Guitar, Flute, Sitar
(A) Violin (B) Guitar (C) Flute (D) Sitar
- Q76.** Find the odd one out: 121, 144, 169, 200, 225
(A) 144 (B) 169 (C) 200 (D) 225

Analytical Reasoning

- Q77.** Five friends A,B,C,D,E sit in a row. B is right of A. C is left of A. D is right of B. E is between C and A. Find the order left to right.
(A) C,E,A,B,D (B) C,A,E,B,D (C) E,C,A,B,D (D) C,E,B,A,D
- Q78.** In a row of 15 children, P is 5th from left and Q is 8th from right. How many children are between P and Q?
(A) 1 (B) 2 (C) 3 (D) 4
- Q79.** A is taller than B but shorter than C. D is the tallest. E is shorter than B. Who is the shortest?
(A) A (B) B (C) D (D) E
- Q80.** 8 people sit in a circle facing center. M is 3rd to the right of N. How many people are between them going the other way (left)?
(A) 2 (B) 3 (C) 4 (D) 5
- Q81.** Four people P,Q,R,S sit in a row facing north. Q is immediately right of P. R is immediately left of P. S is at the right end. Find the order left to right.
(A) R,P,Q,S (B) P,R,Q,S (C) R,Q,P,S (D) S,R,P,Q

Q82. Building A is taller than B but shorter than C. Building D is the shortest. Building E is taller than C. Which is the tallest?
(A) A (B) C (C) D (D) E

Classification

- Q83.** Which does not belong: Trumpet, Piano, Drum, Painting
(A) Trumpet (B) Piano (C) Drum (D) Painting
- Q84.** Which does not belong: Iron, Copper, Gold, Wood
(A) Iron (B) Copper (C) Gold (D) Wood
- Q85.** Which does not belong: 2, 3, 5, 9, 11
(A) 3 (B) 5 (C) 9 (D) 11
- Q86.** Which does not belong: Rose, Lotus, Jasmine, Mango
(A) Rose (B) Lotus (C) Jasmine (D) Mango
- Q87.** Which does not belong: Circle, Sphere, Square, Triangle
(A) Circle (B) Sphere (C) Square (D) Triangle
- Q88.** Which does not belong: Cricket, Football, Hockey, Chess
(A) Cricket (B) Football (C) Hockey (D) Chess

Directions

- Q89.** A man walks 5 km north, turns right and walks 3 km, then turns right again and walks 5 km. How far is he from the start?
(A) 3 km (B) 5 km (C) 8 km (D) 13 km
- Q90.** Ravi walks 10m east, 10m south, then 10m west. In which direction is he from the start?
(A) North (B) South (C) East (D) West
- Q91.** A person faces east, turns 90° clockwise, then 180°. Which direction does he face now?
(A) North (B) South (C) East (D) West
- Q92.** Point A is 4 km north of Point B. Point C is 3 km east of Point A. Find the distance between B and C.
(A) 4 km (B) 5 km (C) 6 km (D) 7 km
- Q93.** A man walks 6 km south, then turns left and walks 8 km. How far and in which direction is he from the start?
(A) 10 km, South-East (B) 14 km, South (C) 10 km, North-East (D) 8 km, East
- Q94.** If South-East becomes North and North-East becomes West (same rotation applied), what does West become?
(A) South (B) South-East (C) South-West (D) North-West

Statement — Arguments and Assumptions

- Q95.** Statement: Should smoking be banned in public places? Argument: Yes, it protects non-smokers from passive smoking hazards. Is this argument strong or weak?
(A) Strong (B) Weak (C) Neither strong nor weak (D) Cannot be determined
- Q96.** Statement: All students should wear uniforms. Assumption I: Uniforms promote equality. Assumption II: Uniforms are expensive. Which is implicit?
(A) Only I (B) Only II (C) Both I and II (D) Neither
- Q97.** Statement: "Please switch off the lights when leaving the room." Assumption: The lights are currently on. Does this assumption hold?
(A) Yes, implicit (B) No (C) Cannot be determined (D) Irrelevant
- Q98.** Statement: The company announced a 20% bonus for all employees this year. Assumption: The company performed well financially. Is this implicit?
(A) Yes (B) No (C) Cannot be determined (D) Contradicts statement
- Q99.** Statement: Government warning: 'Cigarette smoking is injurious to health.' Argument: This warning will stop all smokers from smoking. Strong or weak?
(A) Strong (B) Weak (C) Neither (D) Cannot say
- Q100.** Statement: "Read the instructions carefully before attempting the exam." Assumption: Some candidates might not read instructions carefully otherwise. Is this implicit?
(A) Yes (B) No (C) Cannot be determined (D) Irrelevant

Part C — Answer Key

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	A	2	B	3	C	4	B	5	A
6	C	7	B	8	B	9	C	10	C
11	C	12	A	13	D	14	C	15	A
16	A	17	A	18	A	19	A	20	A
21	A	22	B	23	B	24	C	25	B
26	A	27	C	28	B	29	B	30	A
31	C	32	B	33	B	34	B	35	B
36	C	37	A	38	D	39	B	40	C
41	B	42	C	43	A	44	A	45	A
46	A	47	A	48	A	49	A	50	B
51	B	52	B	53	B	54	C	55	B
56	A	57	B	58	C	59	C	60	B
61	C	62	A	63	C	64	B	65	A
66	A	67	B	68	A	69	A	70	A
71	C	72	D	73	C	74	D	75	C
76	C	77	A	78	B	79	D	80	C
81	A	82	D	83	D	84	D	85	C
86	D	87	B	88	D	89	A	90	B
91	A	92	B	93	A	94	B	95	A
96	A	97	A	98	A	99	B	100	A