RRB ALP CBT-I 2024 Official Paper (Held On: 26 Nov, 2024 Shift 3) (Previous Year Paper)

RRB Assistant Loco Pilot (ALP) • 2024 • 75 questions • 60 minutes • Answer key

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STAGE I (CBT I)

Q1. Read the given statements and conclusions carefully. You have to take the given statements to be true even if they seem to be at variance from commonly known facts and decide which conclusion(s) logically follow(s) from the given statements.

Statements:

All engines are rockets.

All planes are rockets.

Conclusions:

(I) Some engines are planes.

(II) All planes are engines.

(a) Only conclusion (II) follows
(b) Both conclusions (I) and (II) follow
(c) Only conclusion (I) follows
(d) Neither conclusion (I) nor (II) follows

Q2. Which of the following options should come in place of the question mark ('?') in the given series based on the English alphabetical order?

FLB,IOE,LRH,OUK,?

(a) RYM
(b) RXN
(c) RYN
(d) RXM

Q3. Which of the following options should come in place of the question mark (?) in the given series to make it logically complete?

24, 26, 30, 36, 44,?

(a) 54
(b) 57
(c) 53
(d) 51

Q4. A textbook has a total of 662 pages. It is divided into two parts. The second part of the book has 52 pages less than the first part. How many pages are there in the first part of the book?

(a) 324
(b) 305
(c) 372
(d) 357

Q5. Under which Section of the Telecommunications Act, 2023, was the Universal Service Obligation Fund renamed as Digital Bharat Nidhi?

(a) Section 24(1)
(b) Section 12(3)
(c) Section 20(1)
(d) Section 30(2)

Q6. RGEL is related to SIHO in a certain way based on the English alphabetical order. In the same way, VOQX is related to WQTA. To which of the following options is YUZG related, following the same logic?

(a) ZWCK
(b) ZYBJ
(c) ZWCJ
(d) ZYCJ

Q7. Select the correct law for the following statement.

During a chemical reaction mass is neither created nor destroyed.

(a) Law of thermodynamic
(b) Henry's Law
(c) Charles Law
(d) Law of conservation of mass

Q8. The relation between thrust (T), pressure (P) and area (A) of an object in a given medium is _____.

(a) T=PxA
(b) TxA=P
(c) T=P+A
(d) T=P/(AxA)

Q9. A dishonest shopkeeper pretends to sell his goods at cost price. However, he uses a false weight on which 984 gm is written, but actually weighs lesser. Using this false weight, the shopkeeper makes a gain of 23%. The actual measure of the weight used is:

(a) 935gm
(b) 800gm
(c) 850gm
(d) 900gm

Q10. The value of (0.000001)^(1/3) is:

(a) 0.1
(b) 0.001
(c) 0.01
(d) 0.000001

Q11. Which of the following is obtained upon heating ferrous sulphate?

(a) Only ferric oxide
(b) Ferric oxide, sulphur dioxide and sulphur trioxide
(c) ferric oxide and sulphur trioxide
(d) ferric oxide and sulphur dioxide

Q12. Which of the following statements is INCORRECT about sodium carbonate?

(a) Sodium carbonate is used in glass, soap and paper industries.
(b) Sodium carbonate is used in the manufacture of sodium compounds, such as borax.
(c) Sodium carbonate is used to neutralise excess acid in the stomach.
(d) Sodium carbonate can be used as a cleaning agent for domestic purposes.

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Q13. Simplify: 3889 + 12.952 - 47.95

(a) 3853.892
(b) 3853.982
(c) 3854.002
(d) 3854.012

Q14. In Fleming's left hand rule, which physical quantity is represented by the middle finger?

(a) Direction of the magnetic field
(b) Direction of electric current
(c) Direction of force
(d) Direction of the motion of conductor

Q15. Seven people, B, C, D, E, F, G, and K, are sitting in a straight line, facing north. Only K sits to the left of G. Only four people sit between K and C. Only E sits between F and D and F is not an immediate neighbour of C.

Who sits at the extreme right of the line?

(a) G
(b) C
(c) B
(d) F

Q16. Which of the following options should come in place of the question mark (?) in the given series based on the English alphabetical order?

HKN, QTW, ZCF, ILO, ?

(a) RUX
(b) RTV
(c) QSU
(d) QTW

Q17. In the following number-pairs, the second number is obtained by applying certain mathematical operations to the first number. Which numbers should replace X and Y so that the pattern followed by the two numbers on the left side of :: is the same as that on the right side of ::?

(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g. 13 - Operations on 13 such as adding/subtracting/multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)

X : 521 :: 794 : Y

(a) X = 698, Y = 612
(b) X = 628, Y = 594
(c) X = 659, Y = 656
(d) X = 674, Y = 588

Q18. Which cell organelle serves as a channel for transport of material between various regions of cytoplasm?

(a) Mitochondria
(b) Lysosomes
(c) Endoplasmic reticulum
(d) Chloroplast

Q19. What was the unemployment rate in India for individuals aged 15 years and above from July 2023 to June 2024?

(a) 3.0%
(b) 3.2%
(c) 3.3%
(d) 3.1%

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Q20. If the radius of a sphere is increased by 50%, find the increase percent in the volume.

(a) 337.5%
(b) 325%
(c) 225%
(d) 237.5%

Q21. Which of the following Indian states hosted the 2023 Hornbill Music Festival?

(a) Kerala
(b) Nagaland
(c) Odisha
(d) Gujarat

Q22. A, B, C, D, E and F are sitting around a circular table facing the centre. A sits second to the left of B. E sits to an immediate left of A. C sits to the immediate right of F. What is the position of C with respect to D?

(a) Immediate right
(b) Second to the left
(c) Second to the right
(d) Third to the left

Q23. The radius of the base and the height of a closed cylinder are in the ratio 1 : 3. Using π = (22/7), find its total surface area if its curved surface area is 924 m².

(a) 512 m²
(b) 1848 m²
(c) 908 m²
(d) 1232 m²

Q24. Based on the English alphabetical order, three of the following four letter-clusters are alike in a certain way and thus form a group. Which letter-cluster does not belong to that group?

(Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)

(a) OKL
(b) UPR
(c) DYA
(d) LGI

Q25. If a person can see far objects distinctly but cannot see nearby objects clearly, then this eye defect can be corrected by using _____.

(a) a concave lens of suitable power
(b) a plane glass plate
(c) a convex lens of suitable power
(d) a plane mirror

Q26. Which of the following metals are mixed with iron to get stainless steel?

(a) nickel and tin
(b) nickel and zinc
(c) nickel and copper
(d) nickel and chromium.

Q27. Solid CO2 gets converted directly into the gaseous state upon decreasing the pressure to _____.

(a) 2 atmosphere, without coming to the liquid state
(b) 1 atmosphere, without coming to the liquid state
(c) 3 atmosphere, without coming to the liquid state
(d) 4 atmosphere, without coming to the liquid state

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Q28. JHFDA is related to OMKIF in a certain way based on the English alphabetical order. In the same way, NLJHE is related to SQOMJ. To which of the following options is KIGEB related, following the same logic?

(a) PNLJH
(b) PNLJG
(c) QOMKI
(d) QOMKH

Q29. In a row of people, Marshall is sitting 13^(th) from the left end and 36^(th) from the right end. What is the total number of persons in the row?

(a) 49
(b) 46
(c) 48
(d) 50

Q30. Where does the centre of curvature of a concave mirror lie?

(a) At the centre of the mirror
(b) Behind the mirror
(c) At the edge of the mirror
(d) In front of the mirror

Q31. In 2024, which bank partnered with Veefin Solutions to launch the SmartFin, a digital supply-chain finance platform?

(a) HDFC Bank
(b) YES Bank
(c) UCO Bank
(d) ICICI Bank

Q32. What was the score for Goal 1 (No Poverty) in the 2023-24 SDG India Index?

(a) 72
(b) 60
(c) 54
(d) 67

Q33. If 9 lines of a print, in a column of a book, contain 36 words, how many words will a column of 51 lines contain?

(a) 208
(b) 192
(c) 196
(d) 204

Q34. Town A lies to the southwest of Town R. Town D lies to the east of Town A. Town T lies to the southeast of Town D. Town R lies to the north of Town T. Town M lies to the southeast of Town T. What is the position of Town M with respect to Town D?

(a) Northeast
(b) Southeast
(c) Northwest
(d) Southwest

Q35. Two numbers are in the ratio 3 : 2. Their LCM and HCF are 24 and 4, respectively. The greater of the two numbers is:

(a) 10
(b) 8
(c) 12
(d) 14

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Q36. Blood brings carbon dioxide from the rest of the body for release into the:

(a) intestines
(b) oesophaugus
(c) stomach
(d) alveoli

Q37. Which physical quantity represents the rate at which electric energy is dissipated or consumed in an electric circuit?

(a) Electrical energy
(b) Electric power
(c) Potential differrence
(d) Heat energy

Q38. In June 2024, which of the following Indian cities was officially recognised as World Craft City by the World Crafts Council?

(a) Kolkata
(b) Srinagar
(c) New Delhi
(d) Bhopal

Q39. Which of the following organisms reproduces by budding?

(a) Earthworm
(b) Hydra
(c) Frog
(d) Cockroach

Q40. If each letter of the word WELDNG is changed to the letter immediately succeeding it in the English alphabetical order and the new group of letters thus formed is rearranged in English alphabetical order, then which letter is the third from the left in the new rearranged group of letters?

(a) J
(b) E
(c) H
(d) F

Q41. A moving body covers 10 m distance along a straight path in each second. The body is under which type of motion?

(a) Non - uniformly accelerated motion
(b) Uniformly accelerated motion
(c) Circular motion
(d) Uniform motion

Q42. Study the given table and answer the question that follows.

The table depicts new admissions in the Primary and Middle wings of a school in the years 2021 and 2022.

Years	New admission in Primary Wing	New admission in Middle Wing
2021	25	20
2022	12	15

How many new admissions were there in the Primary wing of the school in the years 2021 and 2022 together?

(a) 35
(b) 31
(c) 37
(d) 33

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Q43. A solution contains 40 ml of acid in 120 ml of water. Calculate the concentration in terms of volume by volume percentage of the solution.

(a) 45%
(b) 25%
(c) 12%
(d) 30%

Q44. If a : b = 3 : 4 and b : c = 4 : 1, then a : b : c = ?

(a) 4 : 1 : 3
(b) 4 : 3 : 1
(c) 3 : 4 : 1
(d) 3 : 1 : 4

Q45. The joint exercise involving the Indian Army's Kharga Corps and the Indian Air Force in 2024 was conducted in which state?

(a) Punjab
(b) Rajasthan
(c) Haryana
(d) Gujarat

Q46. Which award has been conferred to Narayan Chakraborty for his contribution in Science and Engineering in 2024?

(a) Bharat Ratna
(b) Padma Shri
(c) Padma Vibhusan
(d) Padma Bhusan

Q47. If each consonant in the word DANCER is changed to the letter immediately preceding it in the English alphabetical order and each vowel is changed to the letter immediately succeeding it in the English alphabetical order, then which of the following letters is repeated twice in the new group of letters thus formed?

(a) Q
(b) B
(c) C
(d) M

Q48. In the word KNIGHT, each consonant is changed to the letter immediately succeeding it in the English alphabetical order and each vowel is changed to the letter immediately preceding it in the English alphabetical order. How many vowels are present in the new group of letters thus formed?

(a) Four
(b) Two
(c) None
(d) Three

Q49. What will come in the place of '?' in the following equation, if '+' and '–' are interchanged and '×' and '÷' are interchanged?

76 ÷ 4 + 108 × 3 – 5 = ?

(a) 273
(b) 265
(c) 275
(d) 271

Q50. For a data, if the mean is 28.5 and the median is 32, then the mode using empirical formula is:

(a) 41
(b) 40
(c) 42
(d) 39

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Q51. The income of X is 60% more than Y's income and the income of Y is 40% more than Z's income. By what percentage is X's income more than Z's income?

(a) 234%
(b) 134%
(c) 224%
(d) 124%

Q52. In this question, a statement is followed by two courses of action, numbered I and II. You must assume everything in the statement to be true and on the basis of the information given in the statement, decide which of the courses of action logically follow(s) for pursuing.

Statement: The price of wheat has been steadily rising across the country since the last 3 weeks, due to shortages reported from major wholesale markets.

Courses of Action: (I) The Government should set up an urgent investigation to check the reasons for the shortages. (II) The Government should provide oil at subsidized rates to citizens till wheat supplies are restored.

(a) Neither I nor II follows
(b) Only I follows
(c) Only II follows
(d) Both I and II follow

Q53. In a certain code language,

A + B means ‘A is the mother of B’,

A – B means ‘A is the brother of B’,

A × B means ‘A is the wife of B’ and

A ÷ B means ‘A is the father of B’.

Based on the above, how is Q related to T if ‘P – Q × R ÷ S + T’?

(a) Mother's brother
(b) Mother
(c) Mother's mother
(d) Daughter

Q54. As of September 2024, who among the following cricketers (men) is India's second highest wicket taker in the Test Matches?

(a) Harbhajan Singh
(b) R Ashwin
(c) Anil Kumble
(d) Kapil Dev

Q55. Reflex arcs are formed in which part of the nervous system?

(a) Medulla
(b) Fore brain
(c) Spinal cord
(d) Cerebellum

Q56. Read the given statements and conclusions carefully. You have to take the given statements to be true even if they seem to be at variance from commonly known facts and decide which conclusion(s) logically follow(s) from the given statements.

Statements:

All clothes are rings.

No cloth is a bottle.

Conclusions:

(I) Some rings are bottles.

(II) Some rings are clothes.

(a) Both conclusions (I) and (II) follow

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(b) Neither conclusion (I) nor (II) follows
(c) Only conclusion (II) follows
(d) Only conclusion (I) follows

Q57. In a certain code language, 'fair weather friend' is coded as 'kl ph gb' and 'best friend ever' is coded as 'ju fv kl'. How is 'friend' coded in the given language?

(a) gb
(b) ph
(c) kl
(d) fv

Q58. If 'A' stands for '÷', 'B' stands for '×', 'C' stands for '+' and 'D' stands for '−', what will come in place of question mark '?' in the following equation?

92 D 12 B 3 C (63 A 3) D 15 =?

(a) 62
(b) 78
(c) 54
(d) 80

Q59. In the following number-pairs, the second number is obtained by applying certain mathematical operations to the first number. Which numbers should replace X and Y so that the pattern followed by the two numbers on the left side of :: is same as that on the right side of ::?

(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g. 13 - Operations on 13 such as adding/subtracting/multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)

X : 30 :: 175 : Y

(a) X = 195, Y = 27
(b) X = 145, Y = 38
(c) X = 160, Y = 33
(d) X = 180, Y = 44

Q60. As of September 2024, who among the following Indian Cricketers has a record of scoring 6 centuries and 522 wickets in test cricket to his credit?

(a) Ravindra Jadeja
(b) Hardik Pandya
(c) Ravichandra Ashwin
(d) Akshar Patel

Q61. A cyclist covers 2.5 km in 4 minutes 10 seconds. How long will he take to cover 6 km at the same speed?

(a) 12 minutes
(b) 11 minutes
(c) 9 minutes
(d) 10 minutes

Q62. An article is sold for Rs. x after offering two successive discounts of 20% and 15% on its marked price of Rs. 500. The value of x is:

(a) 340
(b) 285
(c) 280
(d) 345

Q63. 8 men and 12 women can build a wall in 10 days. 6 men and 8 women can build the same wall in 14 days. How many more days will 1 woman take to build that wall alone compared to the number of days 1 man will take to build the wall?

(a) 35 days

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(b) 280 days
(c) 70 days
(d) 140 days

Q64. A car moves with a uniform velocity (v) in a particular direction for a distance (s) under the action of a force (F) acting in the same direction. The work done by the force will be:
(a) –Fv
(b) Fs
(c) –Fs
(d) Fv

Q65. Simplify the following expression:
(4.33 × 4.33 - 2.65 × 2.65)/1.68
(a) 6.94
(b) 6.98
(c) 6.99
(d) 6.96

Q66. Two plumbers, X and Y, are paid a total of Rs. 660 per day by their employer. If X is paid 120% of the sum paid to Y, then how much is Y paid per day?
(a) Rs. 200
(b) Rs. 300
(c) Rs. 250
(d) Rs. 350

Q67. Variegated leaves are found in which of the following plants?
(a) Banana
(b) Neem
(c) Croton
(d) Rose

Q68. Burning of naphthalene on a spatula gives a _____.
(a) red flame
(b) clean flame
(c) yellow flame
(d) sooty flame

Q69. In a certain code language, ‘KNEW’ is coded as ‘4682’ and ‘KINE’ is coded as ‘6238’. What is the code for ‘I’ in the given code language?
(a) 6
(b) 3
(c) 2
(d) 8

Q70. Based on the English alphabetical order, three of the following four letter-cluster pairs are alike in a certain way and thus form a group. Which pair does not belong to that group?
(Note: The odd one out is not based on the number of consonants/vowels or their position in the letter cluster.)
(a) LO-MP
(b) SW-UY
(c) TW-UX
(d) CF-DG

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Q71. Simplify the expression: sin A + (cos A)/(tan(90 - A))

(a) 2cosecA
(b) cotA
(c) 2sinA
(d) tan A

Q72. A invests Rs. 8,000 and B invests Rs. 11,000 at the same rate of simple interest per annum. If, at the end of 3 years, B gets Rs. 720 more interest than A, then find the rate of simple interest per annum.

(a) 12%
(b) 10%
(c) 6%
(d) 8%

Q73. Which elements of xylem tissue form interconnected water-conducting channels?

(a) Vessels and Xylem fibres
(b) Tracheids and Xylem fibres
(c) Only Vessels
(d) Vessels and Tracheids

Q74. If a regular polygon has 35 diagonals, then the sum of its interior angles is:

(a) 1620°
(b) 1440°
(c) 1980°
(d) 1800°

Q75. Find the median of the data 11, 16, 33, 15, 51, 19, 71, 75, 21, 17.

(a) 20
(b) 18
(c) 24
(d) 22

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ANSWER KEY

1	a	2	a	3	a	4	a	5	a	6	a	7	a	8	a	9	a	10	a
11	a	12	a	13	a	14	a	15	a	16	a	17	a	18	a	19	a	20	a
21	a	22	a	23	a	24	a	25	a	26	a	27	a	28	a	29	a	30	a
31	a	32	a	33	a	34	a	35	a	36	a	37	a	38	a	39	a	40	a
41	a	42	a	43	a	44	a	45	a	46	a	47	a	48	a	49	a	50	a
51	a	52	a	53	a	54	a	55	a	56	a	57	a	58	a	59	a	60	a
61	a	62	a	63	a	64	a	65	a	66	a	67	a	68	a	69	a	70	a
71	a	72	a	73	a	74	a	75	a										

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