RRB ALP CBT-I 2024 Official Paper (Held On: 28 Nov, 2024 Shift 2) (Previous Year Paper)

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

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STAGE I (CBT I)

Q1. The length of the base of a triangle is equal to the perimeter of a square whose diagonal is $7\sqrt{2}$ cm and the corresponding height of the triangle is equal to the length of a side of the square whose area is 169 sq cm. The area (in sq cm) of the triangle is:

(a) 152
(b) 182
(c) 156
(d) 130

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

LNR, MOS, NPT, OQU, ?

(a) PVR
(b) VRP
(c) PRV
(d) VPR

Q3. The Public Examinations (Prevention of Unfair Means) Act, 2024 that aims to prevent unfair means in public examinations and common entrance tests held across the country, came into effect in which month of 2024?

(a) August
(b) June
(c) May
(d) July

Q4. If each vowel in the word ENGLISH is changed to the letter following it in the English alphabetical order and each consonant is changed to the letter preceding it in the English alphabetical order, then which letter will be in the second position from the left in the new group of letters thus formed?

(a) J
(b) M
(c) F
(d) R

Q5. When white light is dispersed by a glass prism into seven colours, out of the following colours which colour will be deviated the least?

(a) Indigo
(b) Yellow
(c) Blue
(d) Green

Q6. As per Women, Business and the Law 2024 (WBL2024), India scores ____ out of 100.0.

(a) 71.4
(b) 74.4
(c) 70.4
(d) 75.4

Q7. ICICI Bank has partnered with which of the following agencies in October 2024 to provide instant credit on UPI for pre-approved customers, offering up to Rs. 2 lakh credit with a 45-day repayment period?

(a) Google Pay
(b) PhonePe
(c) BharatPe
(d) Paytm

Q8. What are the basic building units of organisms?

(a) Cells
(b) Bones
(c) Fibres
(d) Tissues

Q9. For how many days will the Ashtalakshmi Mahotsav be celebrated in December 2024?

(a) Four days
(b) One day
(c) Two days
(d) Three days

Q10. Seven people, A, B, C, D, E, F and G are sitting in a straight line, facing north.

Only two people sit to the left of F. F sits second to the right of G. E sits second to the right of F. C sits fourth to the right of B. D sits second to the left of C. A sits an immediate right of C.

How many people sit between B and G?

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

Q11. When an object falls under gravity, the object experiences:

(a) an acceleration
(b) a deceleration
(c) a force only when it hits the surface of the earth
(d) no external force

Q12. When an iron nail is dipped into a copper sulphate solution, which substance gets displaced?

(a) Copper
(b) Copper Sulphate
(c) Sulphate
(d) Iron

Q13. What is the path of an object when it is in uniform motion?

(a) A circle
(b) A straight line
(c) A parabola
(d) An ellipse

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Q14. An object is placed between the focus and the pole of a concave mirror, the image formed will be:

(a) Real, inverted and enlarged
(b) Real, inverted and diminished
(c) Virtual, erect and diminished
(d) Virtual, erect and enlarged

Q15. Select the pair which follows the same pattern as that followed by the two set of pairs given below. Both pairs follow the same pattern.

WGN : ZDQ

IUZ : LRC

(a) PXH: LCD
(b) CAT: FXW
(c) URL: STI
(d) DMV: HHZ

Q16. 3 pencils and 5 pens together cost Rs. 101, whereas 5 pencils and 3 pens together cost Rs. 91. The cost of 2 pencils and 2 pens together is:

(a) Rs. 45
(b) Rs. 36
(c) Rs. 48
(d) Rs. 32

Q17. In a country, 55% of the population are females. 80% of the male population is literate. What percentage of females are literate if the total literacy rate is 58%?

(a) 55%
(b) 40%
(c) 45%
(d) 20%

Q18. 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 kites are monkeys.

All monkeys are ants

Conclusions:

(I) Some ants are kites.

(II) Some monkeys are not kites.

(a) Neither conclusion (I) nor (II) follows.
(b) Only conclusion (II) follows.
(c) Only conclusion (I) follows.
(d) Both conclusions (I) and (II) follow. 2

Q19. The power of a body can be measured in both Kilowatt (KW) as well as Watt(W). Then the value of 1 KW in terms of Watt is:

(a) 10
(b) 1000
(c) 10000
(d) 100

Q20. Study the following table and answer the question.

The table shows the number of people who visited hill stations A and B in the years from 2011 to 2013.

Year	A	B

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2011	777	566
2012	675	289
2013	470	978

What is the absolute difference between the number of people who visited hill station A in the year 2011 to the number of people who visited hill station B in the same year?

(a) 211
(b) 102
(c) 112
(d) 312

Q21. Who became the first woman fighter pilot to join the elite 18 'Flying Bullets' squadron in 2024?

(a) Bhawana Kanth
(b) Mohana Singh
(c) Avani Chaturvedi
(d) Shivangi Singh

Q22. Anthony starts from Point A and drives 9 km towards West. He takes a left turn, drives 3 km, turns left again and drives 13 km. He then takes a right turn and drives 2 km. He takes a final right turn, drives 4 km and stops at Point P. How far (shortest distance) and towards which direction should he drive in order to reach Point A again? (All turns are 90 deg)

(a) 5 km towards the North
(b) 13 km towards the West
(c) 9 km towards the North
(d) 7 km towards the South

Q23. How many medals were secured by India in Paris Olympics 2024?

(a) Four
(b) Five
(c) Three
(d) Six

Q24. In colloids, which of the following is a correct example of foam?

(a) Pumice
(b) Mist
(c) Jelly
(d) Fog

Q25. Which of the following options should come in place of the question mark (?) in the given series based on the English alphabetical order?

UZW, TYV, SXU, RWT, ?

(a) SQV
(b) QSV
(c) SVQ
(d) QVS

Q26. What is the position of the apical meristematic tissue in a plant body?

(a) At the growing tips of the stems and roots
(b) Near to the root region only
(c) On the lateral side of the stem and roots
(d) Near the node

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Q27. Find the simple interest on Rs. 3,000 as a sum borrowed at 4% per year rate of interest for 5 years.

(a) Rs. 400
(b) Rs. 800
(c) Rs. 600
(d) Rs. 300

Q28. The present ages of three persons are in ratio 4 : 5 : 6. Eight years ago, the sum of their ages was 51. Find the present age of the eldest person.

(a) 28 years
(b) 30 years
(c) 45 years
(d) 36 years

Q29. Refer to the following number and symbol series and answer the question that follows. Counting to be done from left to right only.

(Left) 9 # 1 2 @ 8 $ 7 & 3 Ω & % 4 6 * £ 5 (Right)

How many such symbols are there, each of which is immediately preceded by an even number but not immediately followed by an odd number?

(a) Zero
(b) Two
(c) One
(d) More than two

Q30. 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:

Some parrots are monkeys.

Some bears are monkeys.

Conclusions:

(I) All bears are parrots.

(II) Some monkeys are not bears.

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

Q31. What compound is formed when dilute hydrochloric acid is added to a beaker containing a small amount of copper oxide?

(a) Copper (IV) Chloride
(b) Copper (II) Chloride
(c) Copper (III) Chloride
(d) Copper (I) Chloride

Q32. The work done in moving a charge +Q across two points having a potential difference K is:

(a) QK
(b) 2QK
(c) QK/4
(d) QK/2

Q33. Where was the Fifth Global Standards Symposium (GSS-24) held?

(a) Bengaluru
(b) Chennai
(c) New Delhi

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(d) Mumbai

Q34. A scheme like 'Buy 5, Get 6' on the same kind of articles with the same marked price offers a _____ discount

(a) 20%
(b) 16 2/3 %
(c) 11 1/9%
(d) 17.50%

Q35. A vendor sold 10 toffees for a rupee, thereby gaining 20%. How many did he buy for a rupee?

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

Q36. Which of the following options gives the correct expression for y, when $(\cos^2 A)/(1 - \sin A) = y$, and $\sin A \neq 1$?

(a) cscA
(b) secA+tanA
(c) sinA+1
(d) cosA+1

Q37. Metabolic activities that generate nitrogenous waste material in human being are removed by:

(a) the vascular system
(b) the excretory system
(c) the circulatory system
(d) the respiratory system

Q38. In this question, two statements, I and II, have been given. These statements maybe independent causes, or effects of independent causes or a common cause. One of the statements maybe the effect of the other statement. Read both the statements and select the correct answer.

I. Most teachers of school X have left the school and joined school Y.

II. The football team of school X has won the champion's trophy in the inter-city football championship.

(a) Both I and II are independent causes.
(b) Both I and II are effects of independent causes.
(c) II is the cause and I is its possible effect.
(d) I is the cause and II is its possible effect.

Q39. Which of the following options should come in place of the question mark (?) in the given series?

7, 13, 25, ?, 97, 193

(a) 39
(b) 49
(c) 32
(d) 35

Q40. All 36 people are standing in a row, facing north. Aman is 11^(th) from the left end, while Pratha is 12^(th) from the right end.

How many people are there between Aman and Pratha?

(a) 18
(b) 15
(c) 10
(d) 13

Q41. The smallest natural number that must be multiplied with 1083 to make it a perfect square is

(a) 3
(b) 11
(c) 2

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(d) 4

Q42. Select the correct statement(s).

A. Testosterone brings about changes in appearance seen in boys at the time of puberty.

B. Progesterone brings about changes in appearance seen in boys at the time of puberty.

(a) Both the statements are false.
(b) Both the statements are true.
(c) Statement B is true but A is false.
(d) Statement A is true but B is false.

Q43. Particles of matter are continuously moving because of _____.

(a) potential energy
(b) size of particles
(c) kinetic energy
(d) intermixing of particles

Q44. Which of the following is a prime number?

(a) 437
(b) 373
(c) 161
(d) 221

Q45. 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) BF-AE
(b) DH-CG
(c) XB-YC
(d) TX-SW

Q46. In a certain code language, ‘GLOBE’ is coded as ‘84315’, ‘GRADE’ is coded as ‘89265’, and ‘BAKED’ is coded as ‘12756’. What is the code for ‘R’ in the given code language?

(a) 9
(b) 8
(c) 6
(d) 2

Q47. 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) AK - VH
(b) YI - TD
(c) SC - NX
(d) LV - GQ

Q48. I walk at a speed of 10 km/h and reach the destination in 2 hrs, exactly on time. If I increase my speed by 5 km/h, how early would I reach my destination?

(a) 50 min
(b) 20 min
(c) 40 min
(d) 30 min

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Q49. Which of the following is obtained by subtracting $x^2 - y^2$ from $y^2 - x^2$?

(a) $-2(x^2-y^2)$
(b) $-2(x^2+y^2)$
(c) $2(x^2+y^2)$
(d) $2(x^2-y^2)$

Q50. If 48 : x :: x : 75, and x > 0, then what is the value of x?

(a) 51
(b) 57
(c) 63
(d) 60

Q51. Seven people, A, B, C, D, E, F and G are sitting in a straight line, facing north.

Only two people sit to the left of D. F sits second to the left of D. G sits second to the right of E. E sits second to the right of D. A sits second to the left of B. A is not an immediate neighbour of F.

Who sits at the extreme right end of the line?

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

Q52. Identify the simplest compound formed by carbon that is used widely as fuel.

(a) Methyl
(b) Methane
(c) Ethane
(d) Propane

Q53. In the female reproductive organ of flower, the swollen bottom part is the ____, middle elongated part is the ____, and the terminal part that may be sticky is the stigma.

(a) style, ovary
(b) ovary, style
(c) bud, style
(d) zygote, pollen tube

Q54. _____ was awarded the Green Energy Champion Award for 2023-24 at a meeting hosted by the Indian Wind Power Association in Coimbatore on 18 August 2024.

(a) Uttar Pradesh
(b) Andhra Pradesh
(c) Gujarat
(d) Kerala

Q55. Which of the following statements is INCORRECT about ‘nature of a carbon compound’?

(a) Carbon has the unique ability to form bonds with other atoms of carbon, giving rise to large molecules. This property is called catenation.
(b) Compounds of carbon having double or triple bonds between their carbon atoms are called unsaturated compounds.
(c) Compounds of carbon are only formed with oxygen.
(d) Compounds of carbon, which are linked by only single bonds between the carbon atoms, are called saturated compounds.

Q56. NCPJ is related to PFTO in a certain way based on the English alphabetical order. In the same way, QAVB is related to SDZG. To which of the following options is UIND related, following the same logic?

(a) VKRJ
(b) VMRJ
(c) XLSI
(d) WLRI

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Q57. If ‘A’ stands for ‘÷’, ‘B’ stands for ‘×’, ‘C’ stands for ‘+’ and ‘D’ stands for ‘−’, what will come in place of the question mark ‘?’ in the following equation?

34D54C18A18B324 = ?

(a) 202
(b) 204
(c) 404
(d) 304

Q58. 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’.

How is N related to S if ‘N – P # S × T

(a) Father's mother
(b) Father's brother
(c) Mother's brother
(d) Father's father's brother

Q59. Refer to the following number and symbol series and answer the question that follows. Counting to be done from left to right only.

(Left) # 1 * £ 5 $ 8 $ 4 2 & % 6 7 & @ 3 Ω 9 (Right)

How many such symbols are there, each of which is immediately preceded by a number and also immediately followed by a symbol?

(a) More than two
(b) Zero
(c) Two
(d) One

Q60. If A means +, B means −, C means ×, D means ÷, then what will come in place of the question mark (?) in the following equation?

91 D 13 B 4 A 3 C 2 = ?

(a) 8
(b) 9
(c) 7
(d) 10

Q61. Which of the following teams was the winner of 2nd edition of Women's Premier League?

(a) Royal Challengers Bangalore (Bengaluru)
(b) UP Warriorz
(c) Delhi Capitals
(d) Mumbai Indians

Q62. In a certain code language, ‘CODE’ is coded as ‘5739’ and ‘LEGS’ is coded as ‘4256’. What is the code for ‘E’ in the given code language?

(a) 6
(b) 5
(c) 2
(d) 9

Q63. Consider a long current carrying solenoid. If Rahul plots the magnetic field lines inside this long current carrying solenoid, then it appears:

(a) denser at the ends
(b) denser to increase from one end to another

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(c) uniform at all points
(d) denser in the middle

Q64. The average of the prime numbers between 11 and 30, both excluded, is:
(a) 20.2
(b) 20.3
(c) 19.6
(d) 19.5

Q65. Identify the INCORRECT sentence(s).

a. Some organisms use simple food material obtained from inorganic sources in the form of carbon dioxide and water.

b. Other organisms utilise complex substances which are broken down into simpler ones before they can be used for the upkeep and growth of the body.

c. Heterotrophic organisms include plants.

(a) Only c
(b) Only a
(c) Only b and c
(d) Only a and b

Q66. A and B can together complete a piece of work in 5 days. They worked together for 4 days and then B left. After another 2 days, A completed the remaining work. In how many days can A complete the entire work alone?
(a) 20
(b) 10
(c) 15
(d) 5

Q67. 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 : 793 :: 679 : Y

(a) X = 974, Y = 498
(b) X = 848, Y = 519
(c) X = 886, Y = 443
(d) X = 923, Y = 481

Q68. The average of 70 values is 40. If each value is multiplied by 20, what will be the changed average?
(a) 800
(b) 60
(c) 90
(d) 1400

Q69. Which of the following numbers represent the atomic mass of calcium?
(a) 32 u
(b) 16 u
(c) 40 u
(d) 14 u

Q70. If, in the quadrilateral JKLM, the measures of the angles J, K, L, and M are in the ratio 2 : 3 : 5 : 6, then the quadrilateral is a:
(a) Kite
(b) Parallelogram

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(c) Trapezium
(d) Square

Q71. If the number 6484a6 is divisible by 8, then find the least value of a.
(a) 0
(b) 7
(c) 3
(d) 1

Q72. Using π = 22/7, find the total surface area of a closed cylinder having a base radius of 70 m and height of 110 m.
(a) 79,200 m²
(b) 82,400 m²
(c) 82,500 m²
(d) 78,500 m²

Q73. What is the name of the project launched by the Ministry of Culture in 2024 to showcase India's artistic heritage through public art installations?
(a) Project BHARATI
(b) Project KALA
(c) Project SANSKRITI
(d) Project PARI

Q74. Two students appeared in an examination. One of them secured 9 marks more than the other and his marks were 56% of the sum of their marks. The marks obtained by them were:
(a) 41 and 32
(b) 43 and 34
(c) 42 and 33
(d) 39 and 30

Q75. 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 : 826 :: 723 : Y
(a) X=593, Y=941
(b) X=542, Y=1007
(c) X=604, Y=1018
(d) X=518, Y=984

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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