RRB ALP CBT-I 2024 Official Paper (Held On: 26 Nov, 2024 Shift 1) (Previous Year Paper)

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

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STAGE I (CBT I)

Q1. 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) VS-PU
(b) YV-SW
(c) RO-LQ
(d) TQ-NS

Q2. Which is the internal energy reserve in plants?

(a) Glycogen
(b) Starch
(c) Glucose
(d) Sucrose

Q3. If the mode of the following data is 7, then find the value of k.2, 4, 6, 7, 5, 6, 10, 6, 7, 2k + 1, 9, 7, 13

(a) 3
(b) 6
(c) 2
(d) 4

Q4. Out of his total income, Sanjay spends 20% on house rent and 70% of the rest on household expenses. If he saves Rs. 1,800, then his total income is:

(a) Rs. 10,000
(b) Rs. 7,500
(c) Rs. 8,000
(d) Rs. 9,000

Q5. In which month was the Guru Kelucharan Mohapatra Awards 2024 organised by the Srjan-Guru Kelucharan Mohapatra Odissi Nrityabasa?

(a) October
(b) September
(c) August
(d) July

Q6. Which of the following options should come in place of the question mark (?) in the given series based on the English alphabetical order?

CFI, LOR, UXA, DGJ,?

(a) MOQ
(b) LOR
(c) LNP

(d) MPS

Q7. For preparation of which of the following compounds is the chlor-alkali process used?

(a) NaOH + Cl2
(b) NaHCO3
(c) Na2CO3
(d) NaCl

Q8. The work done by a constant force of 5 Newton acting on a body is 5 joules. The displacement of the body in the direction of the applied force is _____.

(a) 100 m
(b) 10 m
(c) 1 m
(d) 1000 m

Q9. The LCM of 24, 42, and 56 is:

(a) 186
(b) 168
(c) 618
(d) 816

Q10. Which of the following options should come in place of the question mark (?) in the given series based on the English alphabetical order?

HLA, BFU, VZO, PTI?

(a) JMB
(b) JNC
(c) JMC
(d) JNB

Q11. In a certain code language, 'PLOW' is coded as '7164' and 'WOLF' is coded as '1564'. What is the code for 'F' in the given code language?

(a) 6
(b) 1
(c) 5
(d) 7

Q12. Magnification produced by a convex mirror for a given object of height 5 cm is 0.2. Here, the height of the image is _____.

(a) 10 cm
(b) 1.5 cm
(c) 0.4 cm
(d) 1 cm

Q13. Find the total surface area of a cylinder whose radius of base is 7 cm and height is 12 cm.

(a) 308 π cm^2
(b) 266 π cm^2
(c) 208 π cm^2
(d) 280 π cm^2

Q14. In the word OPTICAL, each vowel is changed to the letter immediately succeeding it in the English alphabetical order and each consonant is changed to the letter immediately preceding it in the English alphabetical order. Which of the following letters is repeated twice in the new group of letters thus formed?

(a) B
(b) P
(c) O
(d) K

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Q15. Evaluate the given expression. 13 - 12 ÷ 4 × 2

(a) 8
(b) 6
(c) 7
(d) 9

Q16. The equivalent resistance of the two resistors of resistance R ohm each connected in series is _____

(a) R/2 ohm
(b) 3R ohm
(c) 2R ohm
(d) 2/R ohm

Q17. Which of the following statements is/are correct?

Statements:

I) Electromagnet is a device used to convert magnetic field into electrical energy.

II) Electromagnet is a device used to convert mechanical energy into magnetic energy.

(a) Statement II only
(b) Neither Statement I nor II
(c) Both Statements I and II
(d) Statement I only

Q18. Evaluate 297*303

(a) 89991
(b) 89091
(c) 90991
(d) 79991

Q19. Seven people, B, C, D, E, F, G and K are sitting in a straight line, facing north. Only two people sit to the left of B. Only three people sit between B and K. F sits second to the right of B. Only two people sit between F and C. G sits at some place to the right of E but at some place to the left of D. How many people sit to the right of G?

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

Q20. Jaggu can make one wooden chair in 3 days and Rabbu can make the same chair in 4 days. If they work together, in how many days will they make 14 chairs of the same kind?

(a) 18 days
(b) 16 days
(c) 24 days
(d) 20 days

Q21. 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) ZI-UD
(b) BK-VE
(c) TC-NW
(d) EN-YH

Q22. If a regular polygon has 20 diagonals, then the number of sides of this polygon is:

(a) 5
(b) 6
(c) 8
(d) 10

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Q23. Which of the following options does NOT represent a property of suspensions?

(a) The particles of a suspension scatter a beam of light passing through it.
(b) A suspension is a heterogeneous mixture.
(c) The particles of a suspension cannot be seen by the naked eyes.
(d) A suspension is unstable in nature.

Q24. If + means –, – means ×, × means ÷, ÷ means +, then what will come in place of the question mark (?) in the following equation?

22 – 5 ÷ 3 + 12 × 3 = ?

(a) 111
(b) 109
(c) 112
(d) 110

Q25. Shailesh Nayak has been conferred Padma Shri award in 2024 in which field?

(a) Science and Engineering
(b) Medicine
(c) Sports
(d) Literature & Education

Q26. In a certain code language, 'climb the mountains' is coded as 'js bg md' and 'climb the tree' is coded as 'bg cx js'. What is the code for 'tree' in the given code language?

(a) bg
(b) cx
(c) js
(d) md

Q27. In which of the following types of reaction is there an exchange of ions between the reactants?

(a) Decomposition
(b) Addition reaction
(c) Double displacement reaction
(d) Disproportion reaction

Q28. Other than the nervous system, which other system helps in control and coordination in our body?

(a) Excretory system
(b) Endocrine system
(c) Respiratory system
(d) Digestive system

Q29. A car can cover 275 km in 5 hours. If its speed is reduced by 5 km/hr, then how much time will the car take to cover a distance of 250 km?

(a) 4 hr 30 min
(b) 6 hr
(c) 5 hr 30 min
(d) 5 hr

Q30. A diver rowing at the speed of 3 km/h in still water takes double the time going 50 km upstream compared to going 50 km downstream. The speed of the diver against the stream is

(a) 4/3 km/h
(b) 1 km/h
(c) 7/3 km/h
(d) 2 km/h

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Q31. The successful automotive trials of the Zorawar light tank on 13 September 2024 were an important milestone for India's defence sector. Which organisation is responsible for developing this light tank?

(a) Defence Research and Development Organisation (DRDO)
(b) Hindustan Aeronautics Limited (HAL)
(c) Indian Army
(d) Bharat Electronics Limited (BEL)

Q32. The draft of the 'Telecommunications (Administration of Digital Bharat Nidhi) Rules, 2024' was published for public consultation on which date?

(a) 1 August 2024
(b) 30 June 2024
(c) 5 September 2024
(d) 4 July 2024

Q33. 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 ropes are chains.

All chains are strings.

Conclusions:

(I) All strings are ropes.

(II) All ropes are strings.

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

Q34. ACE is related to BDF in a certain way. In the same way, GIK is related to HJL. To which of the following options is MOQ related, to following the same logic?

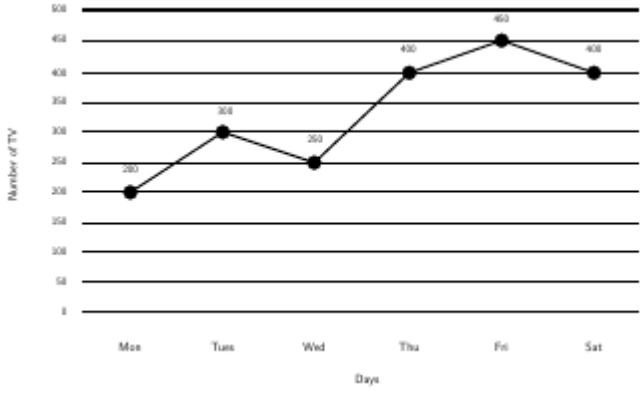
(a) OPQ
(b) NPR
(c) NPS
(d) NOP

Q35. Which of the following does NOT increase the rate of evaporation?

(a) Decrease in temperature
(b) Increase in surface area
(c) Increase in wind speed
(d) Decrease in humidity

Q36. Study the given graph and answer the question that follows.

The graph shows the daily production of TV sets in a factory for 6 days of a week.



How many units of TV sets were produced on Monday and Tuesday together?

(a) 400
(b) 700
(c) 500
(d) 600

Q37. _____ has been honoured as an International Anti-Corruption Champion by the US government for the year 2023.

(a) Nikhil Dey
(b) Medha Patkar
(c) Anna Hazare
(d) Aruna Roy

Q38. Which of the following options represents two successive discounts that are equivalent to a single discount of 84%?

(a) 30% and 70%
(b) 20% and 80%
(c) 10% and 90%
(d) 40% and 60%

Q39. As of March 2024, what does Morgan Stanley's research forecast for India's GDP growth rate in FY25?

(a) 6.80%
(b) 2.40%
(c) 0.90%
(d) 12.50%

Q40. The sum of a two-digit number and the number obtained by reversing the digits is 99. If the digits of the number differ by 5, then the two-digit number can be:

(a) 27
(b) 83
(c) 16
(d) 18

Q41. In a row of 48 students facing North, Tinu is 15th from the left end. If Dinesh is 9th to the right of Tinu, what is Dinesh's position from the right end of the line?

(a) 25th
(b) 23rd
(c) 22nd
(d) 24th

Q42. 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 : 112 :: 15 : Y

(a) X = 14, Y = 166
(b) X = 12, Y = 184
(c) X = 10, Y = 148
(d) X = 16, Y = 192

Q43. A solid metallic sphere of radius 12 cm is melted and recast in the form of small spheres of radius 2 cm. How many small spheres are formed?

(a) 96
(b) 216
(c) 48

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(d) 864

Q44. Indian women team won the Chess Olympiad 2024 title by defeating which of the following teams?

(a) Azerbaizan
(b) Spain
(c) France
(d) Taiwan

Q45. Select the number from among the given options that can replace the question mark (?) in the following series.
549, 525, 477, 405, 309, ?

(a) 145
(b) 167
(c) 189
(d) 139

Q46. Khelo India Para games (2023) were held in _____.

(a) Dispur
(b) Ahmedabad
(c) Patna
(d) New Delhi

Q47. 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’,
A ÷ B means ‘A is the father of B’
And A # B means ‘A is the daughter of B’.
How is K related to Q if ‘P × Q ÷ T + Z – S # K’?

(a) Husband's mother
(b) Wife's brother
(c) Wife's father
(d) Daughter's husband

Q48. Rohit starts from Point A and drives 25 km towards the East. He then takes a right turn, drives 17 km, turns right and drives 14 km. He then takes a right turn and drives 11 km. He takes a final left turn, drives 11 km and stops at Point P. How far (shortest distance) and towards which direction should he drive to reach Point A again? (All turns are 90 degrees turns only unless specified.)

(a) 6 km towards the South
(b) 8 km towards the North
(c) 4 km towards the North
(d) 6 km towards the North

Q49. Which phenomenon causes bending of the ray of light when it moves in the earth's atmosphere?

(a) Atmospheric refraction
(b) Atmospheric scattering
(c) Atmospheric reflection
(d) Atmospheric dispersion

Q50. In what duration will a sum of money double itself at 10% per annum rate of simple interest?

(a) 10 years
(b) 8 years
(c) 12 years
(d) 5 years

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Q51. What percentage of the numbers from 1 to 70, both included, have 1 or 7 in the unit's digit?

(a) 21
(b) 14
(c) 20
(d) 1

Q52. Who among the following participated in the United Nations 'World Climate Action Summit (COP28)' in Dubai?

(a) Ram Nath Kovind
(b) Narendra Modi
(c) Jagdeep Dhankhar
(d) Droupadi Murmu

Q53. Which of the following lacks membrane?

(a) Plant cell
(b) Fungi cell
(c) Viruses
(d) Animal cell

Q54. If a : b = 3 : 2 and b : c = 3 : 2, then a : b : c = ?

(a) 9 : 6 : 4
(b) 9 : 4 : 6
(c) 6 : 3 : 4
(d) 6 : 4 : 3

Q55. A, B, E, F, L, M and P are sitting around a circular table, facing the centre. F sits second to the left of E. A sits third to the right of B. M sits third to the left of L. A sits to the immediate right of M. P is not an immediate neighbour of M. Who sits second to the left of F?

(a) A
(b) M
(c) B
(d) P

Q56. Select the triad which follows the same pattern as that followed by the two triads given below. Both triads follow the same pattern.

JG-NK-RT

EB-IF-MO

(a) GD-KI-OQ
(b) IF-MJ-QR
(c) HE-LI-PR
(d) FC-JG-NO

Q57. Which Indian singer was awarded the Padma Bhushan award, one of India's highest civilian awards, for the first time in 2024?

(a) Asha Bhosle
(b) Usha Uthup
(c) Alka Yagnik
(d) Lata Mangeshkar

Q58. If each vowel in the word HISTORY is changed to the letter preceding it in the English alphabetical order and each consonant is changed to the letter following it in the English alphabetical order, then how many vowels will be there in the group of letters thus formed?

(a) 1
(b) 0
(c) 3
(d) 2

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Q59. Which part of the neuron is responsible for acquiring information?

(a) Dendritic tip
(b) Axon
(c) Cell body
(d) Synapse

Q60. The simplified value of 0.002 × 0.5 is:

(a) 0.1
(b) 0.01
(c) 0.0001
(d) 0.001

Q61. A tree breaks and falls to the ground such that its upper part is still partially attached to its stem. At what height did it break, if the original height of the tree was 24 m and it makes an angle of 30° with the ground?

(a) 9 m
(b) 10 m
(c) 12 m
(d) 8 m

Q62. The arithmetic mean of the observations 39, 49, 59, 60, 70, 80, 90, 93 and 90 is:

(a) 79
(b) 78
(c) 70
(d) 76

Q63. When an empty bottle is closed air tight and pushed inside water it bounces back when it is released. This is because _____.

(a) water does not exert force on an empty bottle
(b) gravitational force on a bottle is equal to the buoyant force of the water
(c) upthrust of water on a bottle is greater than the gravitational force acting on the bottle
(d) gravitational force acting on the bottle is greater than the upthrust of water

Q64. Which two numbers should be interchanged to make the given equation correct?

186 – 82 + (129 ÷ 3) – 6 × 8 + (31 – 19) × 2 = 85

(Note: Interchange should be done of entire number and not individual digits of a given number.)

(a) 186 and 129
(b) 8 and 19
(c) 2 and 6
(d) 82 and 31

Q65. 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 : 68.4 :: 22 : Y

(a) X = 22, Y = 74.8
(b) X = 14, Y = 68.8
(c) X = 18, Y = 83.6
(d) X = 16, Y = 70.4

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Q66. 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:

Due to water pipeline work planned in Grant Road for the next 3 days, the road will be closed for traffic till further notice.

Courses of Action:

(I) Traffic police should increase the number of personnel present at Grant Road to physically coordinate traffic diversion effectively.

(II) Traffic police should issue a notification in major newspapers regarding traffic diversions and alternate routes that can be taken by the general public till the Grant Road closure continues.

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

Q67. What is the valency of carbon?

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

Q68. According to the law of constant proportion, what will be the correct ratio of obtained oxygen and hydrogen (O : H) after decomposition of 18 g water?

(a) 4:14
(b) 16:2
(c) 2:16
(d) 14:4

Q69. Which of the following non-metals is a liquid?

(a) Chlorine
(b) Bromine
(c) Fluorine
(d) Sulphur

Q70. 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 beds are tables.

No tables are chairs.

Conclusions:

(I) All tables are beds.

(II) Some chairs are beds.

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

Q71. Which of the following organisms does NOT show asexual reproduction by means of fission?

(a) Plasmodium
(b) Earthworm
(c) Amoeba
(d) Leishmania

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Q72. A sells a bicycle to B at a profit of 20% and B sells it to C at a profit of 25%. If C pays Rs. 1,500, then what did A pay for it?

(a) Rs. 1,125
(b) Rs. 1,000
(c) Rs. 1,100
(d) Rs. 825

Q73. Which of the following physical quantities represents the rate of change of velocity?

(a) Speed
(b) Velocity
(c) Acceleration
(d) Distance

Q74. If each vowel in the word MARKETING 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 of the following letters will be fourth from the left in the group of letters thus formed?

(a) S
(b) Q
(c) F
(d) J

Q75. Which of the following organisms is/are NOT unicellular?

(a) Amoeba
(b) Plants
(c) Paramoecium
(d) Chlamydomonas

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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