



रेलवे भर्ती बोर्ड / RAILWAY RECRUITMENT BOARD
सीईएन ०२/२०२६ - तकनीशियन ग्रेड I सिगनल और तकनीशियन ग्रेड III
CEN 02/2026 - Technician Grade I Signal and Technician Grade III



RRB TECHNICIAN GRADE III 2026

Technician Grade III | CEN 02/2026

ENGLISH ANSWER KEY

Official Answer Key

All 10 Shifts · 06-10-2026 to 09-10-2026

Questions	100
Marking	+1 correct / -1/3 wrong
Duration	90 minutes
Sections	Maths 25 · Reasoning 25 · General Science 40 · GA 10

Every paper here is the official RRB response sheet with the correct answer marked.

HOW TO USE THIS BOOK

- 1 Open the INDEX on the next page.
- 2 Click any row to jump straight to that date and shift.
- 3 Correct options are ticked in green, wrong ones crossed in red.
- 4 Use the bookmarks panel of your PDF reader to move between shifts.

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Compiled 15 October 2026

INDEX · Click any row to open that paper

RRB Technician Grade III 2026 (English) · 10 shifts

DAY	DATE	SHIFT	TIME	PAGE
Day 1	06-10-2026	Shift 1	09:00 - 10:30	3
Day 1	06-10-2026	Shift 2	12:45 - 14:15	19
Day 1	06-10-2026	Shift 3	16:30 - 18:00	35
Day 2	07-10-2026	Shift 1	09:00 - 10:30	51
Day 2	07-10-2026	Shift 2	12:45 - 14:15	67
Day 2	07-10-2026	Shift 3	16:30 - 18:00	83
Day 3	08-10-2026	Shift 1	09:00 - 10:30	99
Day 3	08-10-2026	Shift 2	12:45 - 14:15	115
Day 3	08-10-2026	Shift 3	16:30 - 18:00	131
Day 4	09-10-2026	Shift 1	09:00 - 10:30	147



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Test Date	06/10/2026
Test Time	9:00 AM - 10:30 AM
Subject	RRB Technician Grade III

*** Note**

Correct Answer will carry 1 mark per Question.

Incorrect Answer will carry 1/3 Negative mark per Question.

1. Options shown in green color with a tick icon are correct.

2. Chosen option on the right of the question indicates the option selected by the candidate.

Section : Mathematics

Q.1 In a 1152 m circular race, Amit finishes one round in 36 seconds and Sumit finishes one round in 72 seconds. How many different meeting points are there on the circumference if they are running in a same direction?

- Ans
- ☒ A. 11
 - ☒ B. 8
 - ☒ C. 1
 - ☒ D. 2

Q.2 G and H started a business with investments of ₹7000 and ₹9000. After 4 months, G withdrew ₹2000 and H withdrew ₹3000. If the profit at the end of the year is ₹3800, how much does G receive?

- Ans
- ☒ A. ₹1980
 - ☒ B. ₹1900
 - ☒ C. ₹1700
 - ☒ D. ₹1678

Q.3 The average sale of cars by a dealer per day in the month of March, other than on Saturdays and Sundays, is 125. The average sale of cars per day on Sundays is 100. What is the average sale of cars per day on Saturdays, if the first Saturday is on the 3rd of March and average sale of cars per day for the whole month is 175?

- Ans
- ☒ A. 455
 - ☒ B. 457
 - ☒ C. 456
 - ☒ D. 451

Q.4 The amount on a sum of ₹6300 at 20% per annum compound interest, compounded annually, in 2 years will be:

- Ans
- ☒ A. ₹8675
 - ☒ B. ₹8564
 - ☒ C. ₹9072
 - ☒ D. ₹8769

Q.5 Find the value of $\frac{2 + \tan^2 \theta + \cot^2 \theta}{\sec \theta \operatorname{cosec} \theta}$.

Ans ☒ A. $\sec \theta \operatorname{cosec} \theta$

☐ B. $\sin \theta + \cos \theta$

☐ C. $\sec \theta + \operatorname{cosec} \theta$

☐ D. $\sin \theta \cos \theta$

Q.6 If a square has a side of $(10x - 6)$ cm, then the area of the square (in cm^2) is:

Ans ☐ A. $100x^2 + 60x - 36$

☐ B. $100x^2 + 60x + 36$

☒ C. $100x^2 - 120x + 36$

☐ D. $100x^2 - 120x - 36$

Q.7 A man has invested ₹57500 at a rate of 6% per annum simple interest for 4 years. Find the amount (in ₹) that he will receive after 4 years.

Ans ☐ A. 13800

☒ B. 71300

☐ C. 14800

☐ D. 72300

Q.8 How many numbers from 1 to 30 are coprime with 30?

Ans ☒ A. 8

☐ B. 6

☐ C. 12

☐ D. 10

Q.9 The mean proportional between 16 and 12.25 is:

Ans ☐ A. 13.5

☒ B. 14

☐ C. 14.75

☐ D. 14.5

Q.10 The 7-digit number 5A931B6 is divisible by 3. Find the least possible value of $(A + B)$.

Ans ☒ A. 0

☐ B. 3

☐ C. 2

☐ D. 5

Q.11 If θ lies in the first quadrant and $\sec^2 \theta + \cos^2 \theta = 2$, then the value of

Ans ☒ A. 2

☐ B. 0

☐ C. -1

☐ D. 8

Q.12 Two inlet pipes A and B can fill a cistern in 20 hours and 15 hours, respectively. A third pipe C, acting as an outlet, can empty the completely filled cistern in 30 hours. All three pipes are opened simultaneously in the empty cistern. After 4 hours, pipe B is closed. After a further 2 hours, pipe A is also closed, while pipe C continues to operate by itself until the cistern is emptied. Find the duration for which pipe C worked alone.

- Ans**
- ☐ A. 12 hours
 - ☐ B. 10 hours
 - ☐ C. 13 hours
 - ☒ D. 11 hours

Q.13 Seema goes to her office by scooter at a speed of $\frac{25}{3}$ m/s and reaches she reaches office 5 minutes late. The distance (in km) of her office is

- Ans**
- ☒ A. 22
 - ☐ B. 20
 - ☐ C. 24
 - ☐ D. 26

Q.14 Suppose C and D are centres of two circles of radii 16 cm and 9 cm respectively, and distance between the centres is 25 cm. Find the length of direct common tangent.

- Ans**
- ☒ A. 24 cm
 - ☐ B. 26 cm
 - ☐ C. 25 cm
 - ☐ D. 23 cm

Q.15 In an exam, marks scored by 16 students of section A (out of 50) are 33, 41, 56, 51, 53, 46, 49, 41, 45, 56, 51, 49, 46, 41, 53, 33 and marks scored by 13 students of section B (out of 50) are 47, 54, 42, 50, 47, 39, 42, 52, 56, 49, 54, 39, 47. Calculate the difference between the mode of section B and section A.

- Ans**
- ☒ A. 6
 - ☐ B. 7
 - ☐ C. 10
 - ☐ D. 5

Q.16 For a distribution, the empirical relation is, $\text{Mode} = 3 \times \text{Median} - 2 \times \text{Mean}$. If the Mean and Median satisfy, $20 \leq \text{Mean} \leq 25$ and $20 \leq \text{Median} \leq 25$, what is the possible range of the Mode?

- Ans**
- ☐ A. $10 \leq \text{Mode} \leq 30$
 - ☐ B. $25 \leq \text{Mode} \leq 40$
 - ☐ C. $20 \leq \text{Mode} \leq 30$
 - ☒ D. $10 \leq \text{Mode} \leq 35$

Q.17 The cost price of an article increases by 10%, and the shopkeeper then sells it at a 15% profit on this increased cost price. If the original cost price was ₹400, what is the new selling price (in ₹)?

- Ans**
- ☐ A. 498
 - ☐ B. 512
 - ☐ C. 482
 - ☒ D. 506

Q.18 Three friends, Arjun, Kabir, and Neha, can paint a fence in 12 hours, 6 hours, and 4 hours, respectively. If they work together, how long will they take to paint the fence?

- Ans**
- ☐ A. 1 hour
 - ☐ B. 4 hours
 - ☒ C. 2 hours
 - ☐ D. 3 hours

Q.19 A sum is invested at 20% per annum, compounded half-yearly, for 2 years. If the interest earned during the last half-year alone is ₹5,324, what was the principal amount?

- Ans**
- ☐ A. ₹45,000
 - ☒ B. ₹40,000
 - ☐ C. ₹55,000
 - ☐ D. ₹50,000

Q.20 Ram purchased a watch for ₹2,850 and sold it at a profit of 5%. Find the selling price of the watch.

- Ans**
- ☒ A. ₹2,992.50
 - ☐ B. ₹2,938.80
 - ☐ C. ₹2,982.70
 - ☐ D. ₹2,924.60

Q.21 A solid sphere is recast into 343 identical smaller spheres each of radius 1 cm. What is the radius of the original sphere?

- Ans**
- ☐ A. 8 cm
 - ☐ B. 9 cm
 - ☒ C. 7 cm
 - ☐ D. 6 cm

Q.22 The marked price of an item is ₹5,000. A shopkeeper offers two successive discounts of 10% and $x\%$ on the marked price. If the ratio of the marked price to the final selling price is 25 : 19, what is the value of x ? (Rounded off to the nearest integer)

- Ans**
- ☐ A. 12
 - ☐ B. 14
 - ☒ C. 16
 - ☐ D. 18

Q.23 If 20% of k is 10 less than 3000% of 10, then k is:

- Ans**
- ☐ A. 1410
 - ☐ B. 1490
 - ☒ C. 1450
 - ☐ D. 1430

Q.24 In a rectangle, one diagonal is inclined to one of its sides at 35° . Find the measure of the acute angle between its two diagonals.

- Ans**
- ☐ A. 55°
 - ☒ B. 70°
 - ☐ C. 35°
 - ☐ D. 63°

Q.25 Nine years ago from now, Akash was 9 times as old as Prakash. After 9 years from now, he will be 3 times as old as Prakash will then be. The present age of Akash (in years) is:

- Ans
- ☐ A. 66
 - ☒ B. 63
 - ☐ C. 62
 - ☐ D. 64

Section : General Intelligence and Reasoning

Q.26 What should come in place of '?' in the given series?

15 24 31 40 47 56 ?

- Ans
- ☐ A. 75
 - ☒ B. 63
 - ☐ C. 73
 - ☐ D. 65

Q.27 Each letter in the word KNIFERS is arranged in alphabetical order. How many letters are there in the English alphabetical order between the letter which is second from the left and the one which is third from the right in the new letter cluster thus formed?

- Ans
- ☐ A. 8
 - ☐ B. 10
 - ☒ C. 7
 - ☐ D. 6

Q.28 Refer to the following letter, symbol series and answer the question. Counting to be done from left to right only.
(Left) F & I Y @ J Y C * A # & K S P \$ B M (Right)
How many such symbols are there each of which is immediately preceded by a symbol and immediately followed by a consonant?

- Ans
- ☐ A. Two
 - ☐ B. Three
 - ☒ C. One
 - ☐ D. None

Q.29 What will come in the place of '?' in the following equation if '+' and '-' are interchanged and 'x' and '÷' are interchanged?

$2 \div 3 + 15 \times 5 - 19 = ?$

- Ans
- ☐ A. 27
 - ☒ B. 22
 - ☐ C. 23
 - ☐ D. 25

Q.30 What should come in place of '?' in the given series?

3 14 59 240 965 ?

- Ans
- ☐ A. 4110
 - ☐ B. 3976
 - ☒ C. 3866
 - ☐ D. 3444

Q.31 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.)

- Ans
- ☒ A. NLH
 - ☒ B. WVQ
 - ☒ C. BZV
 - ☒ D. ZXT

Q.32 If 'A' stands for '÷', 'B' stands for 'x', 'C' stands for '+' and 'D' stands for '-', what will come in place of question mark '?' in the following equation?
14 B 2 D 10 A 5 C 12 = ?

- Ans
- ☒ A. 39
 - ☒ B. 36
 - ☒ C. 40
 - ☒ D. 38

Q.33 In this question, a question is followed by two statements numbered (I) and (II). You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and decide the appropriate answer.

Question:

Five friends – Gautam, Hiral, Ivaan, Jivika and Keshav – are of different ages. Who is the youngest?

Statements:

- (I) Gautam is older than Hiral but younger than Jivika.
(II) Hiral is older than Ivaan, and Keshav is older than Gautam.

- Ans
- ☒ A. Both statements I and II together are NOT sufficient to answer the question.
 - ☒ B. Both statements I and II together (and not statement I alone or statement II alone) are sufficient to answer the question
 - ☒ C. Data in Statement I alone is sufficient to answer the question while data in Statement II is not
 - ☒ D. Data in Statement II alone is sufficient to answer the question while data in Statement I is not

Q.34 If 1 is added to each even digit and 1 is subtracted from each odd digit in the number 9236478, then which of the following digits will be third from the left in the new number thus formed?

- Ans
- ☒ A. 2
 - ☒ B. 3
 - ☒ C. 7
 - ☒ D. 8

Q.35 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 is the one that 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.)

- Ans
- ☒ A. ST - WX
 - ☒ B. MN - QR
 - ☒ C. KL - OP
 - ☒ D. WX - YZ

Q.36 IEDZ is related to VRQM in a certain way based on the English alphabetical order. In the same way, ZVUQ is related to MIHD. To which of the following is OKJF related, following the same logic?

- Ans**
- ☒ A. BXVS
 - ☒ B. BXWS
 - ☒ C. BYVC
 - ☒ D. BWVS

Q.37 Select the pair which follows the same pattern as that followed by the two pairs given below. Both pairs follow the same pattern.

LOR–QTW

ORU–TWZ

- Ans**
- ☒ A. NQT–RVX
 - ☒ B. NPR–RUX
 - ☒ C. NPR–SVY
 - ☒ D. NQT–SVY

Q.38 Seven people, C, F, G, M, N, Q and X, are sitting in a row, facing north. No one sits to the left of F. Only four people sit between F and C. Only three people sit to the right of N. X sits to the immediate left of M. G is not an immediate neighbour of N. How many people sit to the right of N?

- Ans**
- ☒ A. 3
 - ☒ B. 1
 - ☒ C. 2
 - ☒ D. 4

Q.39 Manoj starts from Point A and drives 14 km towards East. He then takes a right turn, drives 12 km, turns right and drives 17 km. He then takes a right turn and drives 21 km. He takes a final right turn, drives 3 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-degree turns only unless specified.)

- Ans**
- ☒ A. 9 km to the South
 - ☒ B. 9 km to the North
 - ☒ C. 10 km to the North
 - ☒ D. 10 km to the South

Q.40 In a certain code language, 'drum soup tap' is coded as 'yw dd xx' and 'soup chin visit' is coded as 'yg xy dd'. How is 'soup' coded in the given language?

- Ans**
- ☒ A. yg
 - ☒ B. yw
 - ☒ C. xx
 - ☒ D. dd

Q.41 In this question, a group of number/symbol is coded using letter codes as per the codes given below and the conditions which follow. The correct combination of codes following the conditions is your answer. If none of the conditions follow, then codes for the respective Number/Symbol to be followed directly as given in the table.

Number/Symbol \$ 5 @ 8 + 3 % 1 ^ 6

Code F I L O R U X Z C E

Conditions –

- (i) If the first element is a number and the last a symbol, the codes for these two (the first and the last elements) are to be interchanged.
- (ii) If the first element is an odd number and the last an even number, the first and last elements are to be coded as A.
- (iii) If both second and third elements are odd numbers, the third element is to be coded as the code for the second element.

What is the code for the following group of number-symbols?

5 % ^ 6 8

- Ans**
- ☒ A. A X C E A
 - ☐ B. O X C E I
 - ☐ C. A X C A E
 - ☐ D. I X X E O

Q.42 Seven boxes M, N, O, P, S, T and U are kept one over the other but not necessarily in the same order.

Only two boxes are kept below U. Only one box is kept above M. Only one box is kept between M and N. S is kept immediately above P. T is kept at some place below O. How many boxes are kept between O and S?

- Ans**
- ☐ A. One
 - ☒ B. Four
 - ☐ C. Three
 - ☐ D. Two

Q.43 In a certain code language, 'BOTH' is coded as '9754' and 'OATH' is coded as '7294'. What is the code for 'A' in the given code language?

- Ans**
- ☐ A. 4
 - ☐ B. 5
 - ☐ C. 9
 - ☒ D. 2

Q.44 What should come in place of ? in the given series based on the English alphabetical order?

BDF, EGI, HJL, KMO, ?

- Ans**
- ☐ A. MQO
 - ☐ B. OPS
 - ☐ C. NQS
 - ☒ D. NPR

Q.45 C is the father of T. T is the brother of N. M is the father of X. X is the son of N. How is M related to C?

- Ans**
- ☒ A. Daughter's husband
 - ☐ B. Husband
 - ☐ C. Wife's brother
 - ☐ D. Sister's husband

Q.46 18 is related to 112 following a certain logic. Following the same logic, 13 is related to 82. To which of the following is 16 related, following the same logic?
(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.)

- Ans**
- ☐ A. 172
 - ☐ B. 125
 - ☐ C. 74
 - ☒ D. 100

Q.47 Seven boxes, A, B, C, D, E, F and G, are kept one over the other but not necessarily in the same order. Only three boxes are kept below F. Only two boxes are kept between F and D. Only A is kept above B. E is kept at some place below G and at some place above C. How many boxes are kept above E?

- Ans**
- ☐ A. 3
 - ☒ B. 4
 - ☐ C. 1
 - ☐ D. 2

Q.48 A question is followed by two statements numbered (I) and (II). You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and decide the appropriate answer.

Question:

Among 5 poles, W, O, K, G and Y each having a different height, which pole is the shortest?

Statements:

I. Y is taller than only two poles. G is taller than Y but shorter than K.

II. W is taller than O.

- Ans**
- ☐ A. Data in Statement I alone is sufficient to answer the question while data in statement II is not
 - ☐ B. Data in Statement II alone is sufficient to answer the question while data in statement I is not
 - ☐ C. Both statements I and II together are NOT sufficient to answer the question
 - ☒ D. Both statements I and II together (and not statement I alone or statement II alone) are sufficient to answer the question.

Q.49 Refer to the following letter series and answer the question
(Left) V W I O K U Y H B R F V D X W Z L O Y N K H V N (Right)
How many such vowels are there each of which is immediately preceded by a vowel and also immediately followed by a consonant?

- Ans**
- ☐ A. Two
 - ☐ B. None
 - ☒ C. One
 - ☐ D. Three

Q.50 If you arrange the letters in the word GARDEN in reverse alphabetical order, how many letters occupy the same positions as in the original word?

- Ans**
- ☐ A. Two
 - ☒ B. None
 - ☐ C. One
 - ☐ D. Three

Section : General Science

Q.51 Which of the following observations best confirms that carbon dioxide is produced when hydrochloric acid reacts with calcium carbonate?

- Ans
- ☐ A. A colorless gas is released rapidly
 - ☐ B. A rise in temperature is felt during reaction
 - ☒ C. A gas that turns limewater milky is released
 - ☐ D. Bubbling of gas is observed in solution

Q.52 A student claims that if a sound wave has a time period of 0.01 s, its frequency must be lower than that of a wave with a time period of 0.005 s. Is this statement correct based on the relation between frequency and time period?

- Ans
- ☐ A. No, frequency remains the same
 - ☐ B. No, because frequency increases as time period increases
 - ☐ C. No, there is no relation between frequency and time period
 - ☒ D. Yes, because frequency decreases as time period increases

Q.53 A plant grows mainly in water and has a body that is not differentiated into true roots, stems, and leaves. To which group does it belong?

- Ans
- ☒ A. Thallophyta
 - ☐ B. Gymnosperms
 - ☐ C. Bryophyta
 - ☐ D. Pteridophyta

Q.54 A block P is placed on a larger block Q, which is initially at rest on a smooth horizontal surface. Block Q is suddenly pulled horizontally, causing P to slip backward relative to Q. Which of the following statements best explains this observation?

- Ans
- ☐ A. Block P experiences a backward force that pushes it away from block Q.
 - ☒ B. Block P tends to remain at rest due to inertia while block Q moves forward.
 - ☐ C. Block P slides backward because gravity acts opposite to the motion.
 - ☐ D. Block P gains additional inertia because block Q accelerates forward.

Q.55 Which quantity is directly proportional to the speed of sound, if the frequency is kept constant?

- Ans
- ☐ A. Loudness
 - ☐ B. Amplitude
 - ☐ C. Frequency
 - ☒ D. Wavelength

Q.56 A non-metal is found to be solid at room temperature, lustrous, and sublimates on heating. Which non-metal shows this unusual combination of physical properties?

- Ans
- ☒ A. Iodine
 - ☐ B. Sulphur
 - ☐ C. Carbon
 - ☐ D. Phosphorus

Q.57 A speed - time graph for a car shows a straight line rising from 0 m/s at 0 s to 20 m/s at 5 s, then staying constant at 20 m/s until 10 s, and finally dropping to 0 m/s at 15 s. What is the total distance travelled by the car?

- Ans
- ☐ A. 75 m
 - ☐ B. 100 m
 - ☒ C. 200 m
 - ☐ D. 150 m

Q.58 Which part of the neuron receives signals from the other neuron?

- Ans
- ☐ A. Axon
 - ☐ B. Cyton
 - ☒ C. Dendrite
 - ☐ D. Cell Body

Q.59 Which of the following changes is observed when adding a neutron to the nucleus of an atom?

- Ans
- ☐ A. Adding a neutron changes the atom into a different element.
 - ☐ B. Adding a neutron increases the atomic number but not the mass number.
 - ☒ C. Adding a neutron increases the mass number but not the atomic number.
 - ☐ D. Adding a neutron changes the atom's charge.

Q.60 A train starts from rest and attains a velocity of 40 m/s in 10 s with uniform acceleration. What distance does it cover in this time?

- Ans
- ☒ A. 200 m
 - ☐ B. 100 m
 - ☐ C. 250 m
 - ☐ D. 400 m

Q.61 How does the concentration of a solution changes when more solute is added to a fixed amount of solvent?

- Ans
- ☐ A. The concentration remains the same because the solvent does not change.
 - ☐ B. The solution becomes less saturated as more solute is added.
 - ☒ C. The concentration increases because more solute is present in the same volume of solvent.
 - ☐ D. The concentration decreases because the solvent amount stays constant.

Q.62 A patient has a lung disorder that reduces oxygen uptake in the alveoli. What is the most likely effect on blood transport in the lungs?

- Ans
- ☒ A. Less oxygen enters blood in pulmonary veins
 - ☐ B. More carbon dioxide accumulates in pulmonary veins
 - ☐ C. Blood flows faster to increase oxygen uptake
 - ☐ D. Pulmonary artery will carry more oxygen than usual.

Q.63 How does nutrition occur in Amoeba?

- Ans
- ☒ A. Engulfs food and forms a food vacuole
 - ☐ B. Produces food by photosynthesis
 - ☐ C. Absorbs food through membrane pores
 - ☐ D. Digests food outside the body

Q.64 Which molecule contains a triple covalent bond?

- Ans
- ☐ A. Oxygen gas (O₂)
 - ☐ B. Water (H₂O)
 - ☐ C. Carbon dioxide (CO₂)
 - ☒ D. Nitrogen gas (N₂)

Q.65 Two resistors with resistance of 2 Ω and 8 Ω are connected in parallel

- Ans
- ☐ A. 5.0 Ω
 - ☐ B. 10.0 Ω
 - ☒ C. 1.6 Ω
 - ☐ D. 16.0 Ω

Q.66 Which method is commonly used to separate a mixture of two miscible liquids with different boiling points?

- Ans
- ☐ A. Decantation
 - ☒ B. Fractional distillation
 - ☐ C. Magnetic separation
 - ☐ D. Filtration

Q.67 How does the rate of cooling on mountain slopes influence the formation of local winds at night?

- Ans
- ☐ A. Rapid cooling causes air to move upward from the valley
 - ☐ B. Slow cooling on slopes keeps air stationary over the mountain
 - ☐ C. Slow cooling causes warm air to rise up the mountain slopes
 - ☒ D. Rapid cooling on slopes creates dense air that flows into the valley

Q.68 Which of the following is the main function of the vas deferens in the male reproductive system?

- Ans
- ☐ A. Provides nutrients to sperm
 - ☐ B. Secretes testosterone
 - ☒ C. Transports sperms
 - ☐ D. Produces sperm

Q.69 A patient has damaged the tissues that support and bind the body, but his muscles and nerves are not affected. Which type of tissue needs to be repaired to restore structural support?

- Ans
- ☐ A. Nervous tissue
 - ☒ B. Connective tissue
 - ☐ C. Epithelial tissue
 - ☐ D. Muscle tissue

Q.70 A new isotope has 20 protons, 22 neutrons, and 20 electrons. How does its mass number affect its chemical behavior compared to other isotopes of the same element?

- Ans
- ☒ A. The mass number does not affect chemical behavior because chemical properties depend mainly on the number of electrons.
 - ☐ B. The mass number determines the number of electrons, so isotopes behave differently chemically.
 - ☐ C. A different mass number changes the arrangement of electrons, altering chemical behavior.
 - ☐ D. A higher mass number always makes the isotope more reactive than others of the same element.

Q.71 Which allotrope of carbon conducts electricity due to its structure?

- Ans
- ☐ A. Diamond
 - ☐ B. Fullerene
 - ☐ C. Charcoal
 - ☒ D. Graphite

Q.72 A swimmer pushes water backward with her hands during a stroke and moves forward. If the swimmer applies a force of 60 N on the water, what is the force exerted by the water on the swimmer?

- Ans
- ☐ A. 60 N backward
 - ☐ B. 120 N backward
 - ☒ C. 60 N forward
 - ☐ D. 30 N forward

Q.73 A biologist discovers a vertebrate that has gills, fins, scales, and reproduces in water. To which vertebrate group does it belong?

- Ans
- ☐ A. Mammal
 - ☒ B. Fish
 - ☐ C. Reptile
 - ☐ D. Amphibian

Q.74 Which of the following conditions would prevent seed formation in a flowering plant even after pollination has occurred?

- Ans
- ☐ A. Lack of chlorophyll production in leaf cell.
 - ☐ B. Absence of pigment formation in petals.
 - ☒ C. Failure of gamete fusion during fertilisation.
 - ☐ D. Excessive production of nectar by the flower.

Q.75 Which hormone is mainly responsible for regulating blood sugar levels in humans?

- Ans
- ☐ A. Thyroxine
 - ☐ B. Growth hormone
 - ☒ C. Insulin
 - ☐ D. Adrenaline

Q.76 A teacher plays two musical notes: Note X has a frequency of 400 Hz, and Note Y has a frequency of 800 Hz. Which statement about their pitches is correct?

- Ans
- ☐ A. Both notes have the same pitch
 - ☐ B. Note X has a higher pitch than Note Y
 - ☐ C. Pitch is not related to frequency
 - ☒ D. Note Y has a higher pitch than Note X

Q.77 Planetary winds form distinct wind belts around Earth between equator and poles, primarily due to:

- Ans
- ☐ A. Ocean currents without influence from the atmosphere.
 - ☐ B. Frequent volcanic eruptions altering air movement
 - ☐ C. Changes in the daily temperature of cities mainly
 - ☒ D. Uneven solar heating and the rotation of Earth

Q.78 Which natural phenomenon demonstrates the dispersion of sunlight into its component colours, similar to the effect produced by a glass prism?

- Ans
- ☐ A. Halo
 - ☐ B. Mirage
 - ☐ C. Twinkling of stars
 - ☒ D. Rainbow

Q.79 A cyclist starts from rest and pedals with constant force, causing her velocity to increase at a steady rate. After 5 seconds, which feature best describes the corresponding velocity-time graph for this motion?

- Ans
- ☒ A. A straight line sloping upward starting from the origin
 - ☐ B. A curved line upward starting from the origin
 - ☐ C. A horizontal line parallel to the time axis
 - ☐ D. A straight line sloping downward from the origin

Q.80 What would happen if washing soda is left open in a humid environment?

- Ans
- ☐ A. Washing soda would turn into a fine dry powder.
 - ☐ B. Washing soda would remain unchanged in the air.
 - ☐ C. Washing soda would release a pungent gas.
 - ☒ D. Washing soda would absorb moisture and become a sticky mass.

Q.81 How do bases affect the concentration of ions in an aqueous solution?

- Ans
- ☐ A. They decrease hydroxide ion concentration
 - ☒ B. They increase hydroxide ion concentration
 - ☐ C. They increase hydronium ion concentration
 - ☐ D. They decrease sodium ion concentration

Q.82 Which of the following best describes the molecular structure of benzene?

- Ans
- ☐ A. A saturated open-chain compound with four carbon atoms in a row
 - ☐ B. An unsystematic carbon chain showing irregular covalent bonding
 - ☐ C. A linear hydrocarbon chain composed of three carbon atoms only
 - ☒ D. A hexagonal ring containing alternating carbon double bonds

Q.83 A cart of mass 20 kg starts from rest and accelerates uniformly along a straight horizontal track. If it reaches a speed of 6 m/s in 3 seconds, what is the work done on the cart during this time interval?

- Ans
- ☐ A. 180 J
 - ☒ B. 360 J
 - ☐ C. 720 J
 - ☐ D. 120 J

Q.84 Which situation involves an increase in potential energy?

- Ans
- ☒ A. Lifting a book to a higher shelf
 - ☐ B. Sliding a book across a table
 - ☐ C. Placing a book in water
 - ☐ D. Dropping a book to the floor

Q.85 Which of the following statements best describes the Law of Conservation of Mass?

- Ans
- ☐ A. The mass of substances always increases during a chemical reaction.
 - ☐ B. The mass of substances depends on the temperature during a chemical reaction.
 - ☒ C. The total mass of substances remains unchanged during a chemical reaction.
 - ☐ D. The mass of substances always decreases during a chemical reaction.

Q.86 Which process in the oxygen cycle directly adds oxygen to the atmosphere?

- Ans
- ☐ A. Decomposition
 - ☐ B. Respiration
 - ☐ C. Combustion
 - ☒ D. Photosynthesis

Q.87 Which of these explanations best describes why 'Sn' is correct symbol of tin?

- Ans
- ☒ A. It is derived from the Latin name 'Stannum'
 - ☐ B. It is randomly assigned to avoid repetition
 - ☐ C. It is chosen based on the English spelling of tin
 - ☐ D. It is the same as the symbol for titanium

Q.88 A stretched rubber band possesses which form of energy due to its changed shape?

- Ans
- ☒ A. Elastic potential energy
 - ☐ B. Gravitational potential energy
 - ☐ C. Sound energy
 - ☐ D. Thermal energy

Q.89 What is a key difference between aerobic and anaerobic respiration in animals?

- Ans**
- ☐ A. Aerobic respiration occurs without glucose
 - ☐ B. Aerobic respiration forms lactic acid in animals
 - ☒ C. Anaerobic respiration occurs without oxygen
 - ☐ D. Anaerobic respiration releases more energy

Q.90 A concave mirror forms a real image of an object which is placed at a distance of 30 cm from the mirror. The center of curvature of the mirror is at 40 cm from the pole. Where will the image be formed?

- Ans**
- ☐ A. - 12 cm
 - ☐ B. + 12 cm
 - ☐ C. + 60 cm
 - ☒ D. - 60 cm

Section : General Awareness

Q.91 Which organization received an enhanced budget allocation of ₹29,100.25 crore in the Union Budget 2026–27 to strengthen defence research and innovation?

- Ans**
- ☐ A. Bharat Electronics Limited (BEL)
 - ☒ B. Defence Research and Development Organisation (DRDO)
 - ☐ C. Indian Space Research Organisation (ISRO)
 - ☐ D. Hindustan Aeronautics Limited (HAL)

Q.92 In March 2026, which senior official was appointed as the Director General of the National Testing Agency (NTA) amid the body's focus on examination integrity?

- Ans**
- ☐ A. Sanjay Jaju
 - ☐ B. Nagaraju Maddirala
 - ☐ C. Chanchal Kumar
 - ☒ D. Abhishek Singh

Q.93 Which former WHO Chief Scientist was elected as a Fellow of the Royal Society in May 2026?

- Ans**
- ☐ A. Indira Hinduja
 - ☐ B. Gagandeep Kang
 - ☐ C. Tessy Thomas
 - ☒ D. Soumya Swaminathan

Q.94 What is the official theme of International Women's Day 2026, observed on 8 March?

- Ans**
- ☐ A. Invest in Women: Accelerate Progress
 - ☒ B. Rights. Justice. Action. For ALL Women and Girls
 - ☐ C. Women in Leadership: Breaking Barriers
 - ☐ D. Gender Equality Through Digital Inclusion

Q.95 The Prime Minister of India undertook an official visit to Indonesia in 2026 to strengthen bilateral relations between the two countries. Who among the following was the President of Indonesia during the visit?

- Ans**
- ☐ A. Anwar Ibrahim
 - ☐ B. Ferdinand Marcos Jr.
 - ☐ C. Joko Widodo
 - ☒ D. Prabowo Subianto

Q.96 The Defence Research & Development Organisation (DRDO) successfully conducted the flight-test of the Pinaka Long Range Guided Rocket (LRGR) at the Integrated Test Range (ITR), Chandipur on 8 July 2026. The rocket was successfully tested for a user-defined minimum range of:

- Ans**
- ☐ A. 300 km
 - ☐ B. 20 km
 - ☒ C. 60 km
 - ☐ D. 250 km

Q.97 The Jan Vishwas (Amendment of Provisions) Bill, 2026, passed in April 2026, primarily seeks to promote which of the following?

- Ans**
- ☐ A. Financial Inclusion and Rural Development
 - ☒ B. Ease of Doing Business and Ease of Living
 - ☐ C. Judicial Reforms and Administrative Efficiency
 - ☐ D. Ease of Tax Compliance and Digital Governance

Q.98 In 2026, when was the National Panchayati Raj Day observed in India?

- Ans**
- ☐ A. 23 June
 - ☒ B. 24 April
 - ☐ C. 22 May
 - ☐ D. 25 March

Q.99 Which book, released in New Delhi in June 2026, systematically traces the historical evolution of Bhawaiya and presents a fresh perspective on its origin and development?

- Ans**
- ☐ A. Echoes of Assam: Musical Heritage
 - ☐ B. Festivals and Folkways of India
 - ☒ C. Sanskritir Ratna Bhandar: Bhaowaiyar Itibritto
 - ☐ D. Songs of Bengal: Folk Traditions Unveiled

Q.100 The 2025 National Health Policy update included a new initiative requiring all government schools to implement which of the following by December 2025?

- Ans**
- ☐ A. Digital health cards linked with national health database
 - ☐ B. Mandatory AI curriculum on health sciences
 - ☒ C. School Health & Wellness Program (SHWP) including regular health screening and health education
 - ☐ D. Compulsory sports programs



रेलवे भर्ती बोर्ड / RAILWAY RECRUITMENT BOARD
सीईएन ०२/२०२६ - तकनीशियन ग्रेड I सिगनल और तकनीशियन ग्रेड III
CEN 02/2026 - Technician Grade I Signal and Technician Grade III



Test Date	06/10/2026
Test Time	12:45 PM - 2:15 PM
Subject	RRB Technician Grade III

*** Note**

Correct Answer will carry 1 mark per Question.

Incorrect Answer will carry 1/3 Negative mark per Question.

1. Options shown in green color with a tick icon are correct.

2. Chosen option on the right of the question indicates the option selected by the candidate.

Section : Mathematics

Q.1 A man has invested ₹58000 at a rate of 6% per annum simple interest for 2 years. Find the amount (in ₹) that he will receive after 2 years.

Ans ☒ A. 64960

☐ B. 65960

☐ C. 6960

☐ D. 7960

Q.2 Ankit, Brijesh and Charu are employed to do a piece of work for ₹22 supposed to do $\frac{31}{47}$ of the work and Brijesh and Charu together $\frac{21}{47}$ of the work be paid?

Ans ☐ A. ₹1692

☐ B. ₹1316

☒ C. ₹1222

☐ D. ₹282

Q.3 In a 2214 m circular race, Sushant finishes one round in 54 seconds and Varun finishes one round in 82 seconds. How many different meeting points are there on the circumference if they are running in a same direction?

Ans ☐ A. 6

☐ B. 5

☐ C. 18

☒ D. 14

Q.4 The sides of a triangle are in the ratio 13 : 14 : 15 and its perimeter is 84 cm. What is the area of the triangle?

Ans ☐ A. 312 cm²

☒ B. 336 cm²

☐ C. 330 cm²

☐ D. 342 cm²

Q.5 A 60 cm diameter cylinder that is rolling without sliding at a rate of 7 rounds per second.

How much distance will the cylinder roll in 15 seconds? $\left(\text{Use } \pi = \frac{22}{7} \right)$

- Ans**
- ☐ A. 63 m
 - ☐ B. 105 m
 - ☒ C. 198 m
 - ☐ D. 180 m

Q.6 In a "Buy y, Get (y - 3) Free" scheme, the effective discount offered to customers is 40%. What is the value of y?

- Ans**
- ☐ A. 7
 - ☐ B. 8
 - ☒ C. 9
 - ☐ D. 10

Q.7 The ratio of the ages of Rohan and Mohit is 4 : 5. If Mohit is 5 years older than Rohan, what is the age of Mohit?

- Ans**
- ☐ A. 24 years
 - ☐ B. 20 years
 - ☒ C. 25 years
 - ☐ D. 30 years

Q.8 Find the value of $\sqrt{\frac{\sec^2 \theta + \operatorname{cosec}^2 \theta}{\tan^2 \theta - \sin^2 \theta}}$.

- Ans**
- ☐ A. $\tan^2 \theta \sec \theta$
 - ☐ B. $\cot^2 \theta \operatorname{cosec} \theta$
 - ☐ C. $\cos \theta \operatorname{cosec}^2 \theta$
 - ☒ D. $\operatorname{cosec}^3 \theta$

Q.9 The fourth proportional to three numbers a, b and c is 84. The ratio of a to b is 5 : 6 and the ratio of b to c is 3 : 5. What is the value of a?

- Ans**
- ☐ A. 40
 - ☒ B. 35
 - ☐ C. 45
 - ☐ D. 30

Q.10 A boat running upstream takes 12 hours 36 minutes to cover a certain distance, while it takes 4 hours 12 minutes to cover the same distance running downstream. What is the ratio between the speed of the boat in still water and speed of the current, respectively?

- Ans**
- ☐ A. 5 : 2
 - ☒ B. 2 : 1
 - ☐ C. 3 : 1
 - ☐ D. 7 : 3

Q.11 A group of 6 identical workers can finish a task in 9 days. How many days will it take if only 3 of them work together to complete the same task?

- Ans**
- ☐ A. 27 days
 - ☐ B. 12 days
 - ☐ C. 15 days
 - ☒ D. 18 days

Q.12 The average sale of cars by a dealer per day in the month of March, other than on Saturdays and Sundays, is 191. The average sale of cars per day on Sundays is 160. What is the average sale of cars per day on Saturdays, if the first Saturday is on the 3rd of March and average sale of cars per day for the whole month is 187?

- Ans**
- ☐ A. 193
 - ☐ B. 186
 - ☐ C. 196
 - ☒ D. 191

Q.13 Find the value of $\frac{3.6 \times 0.48 \times 2.50}{0.09 \times 0.24 \times 0.5}$.

- Ans**
- ☐ A. 40
 - ☒ B. 400
 - ☐ C. 4000
 - ☐ D. 440

Q.14 The 7-digit number A67856B is divisible by 3. Find the least possible value of (A + B).

- Ans**
- ☐ A. 4
 - ☒ B. 1
 - ☐ C. 0
 - ☐ D. 3

Q.15 A man sold a sweater for ₹900, at a loss of 4%. He also sold a trouser for ₹860, at a profit of 25%. Find his net profit.

- Ans**
- ☒ A. ₹134.50
 - ☐ B. ₹139.50
 - ☐ C. ₹129.50
 - ☐ D. ₹149.50

Q.16 Find the weighted mean of 15, 20 and 25 with weights 2, 3 and 5, respectively.

- Ans**
- ☒ A. 21.5
 - ☐ B. 22.5
 - ☐ C. 22
 - ☐ D. 21

Q.17 The compound interest on ₹2,70,000 at 8% per annum, compounded annually, is ₹70,122.24. The period (in years) is:

- Ans**
- ☐ A. 2
 - ☒ B. 3
 - ☐ C. 5
 - ☐ D. 4

Q.18 What is the measure of each interior angle of a regular 96-gon?

- Ans**
- ☐ A. 176.75°
 - ☐ B. 176.5°
 - ☒ C. 176.25°
 - ☐ D. 176°

Q.19 Anand sells an article which costs him ₹600 to Charan at a profit of 25%. Charan then sells it to Rakesh, making a profit of 20% on the price he paid to Anand. How much does Rakesh pay Charan?

- Ans
- ☐ A. ₹910
 - ☐ B. ₹800
 - ☒ C. ₹900
 - ☐ D. ₹850

Q.20 Simplify: $\frac{x^4 + x^2 + 1}{x^2 + x + 1}$

- Ans
- ☐ A. $-x^2 - x + 1$
 - ☐ B. $x^2 - x - 1$
 - ☒ C. $x^2 - x + 1$
 - ☐ D. $x^2 + x - 1$

Q.21 Seven years ago from now, Aman was 5 times as old as Chaman. After 7 years from now, he will be 3 times as old as Chaman will then be. The present age of Aman (in years) is:

- Ans
- ☐ A. 79
 - ☐ B. 78
 - ☐ C. 81
 - ☒ D. 77

Q.22 The mean, median, and mode satisfy the empirical relation, $\text{Mode} = 3 \times \text{Median} - 2 \times \text{Mean}$. If the mean is increased by 5 while the median remains unchanged, then the new mode, will:

- Ans
- ☒ A. Decrease by 10
 - ☐ B. Increase by 10
 - ☐ C. Decrease by 5
 - ☐ D. Increase by 5

Q.23 If 20% of k is 10 less than 2400% of 20, then k is:

- Ans
- ☐ A. 2330
 - ☐ B. 2390
 - ☒ C. 2350
 - ☐ D. 2310

Q.24 If ₹5,000 is invested at an annual interest rate of 8% per annum, compound interest earned?

- Ans
- ☒ A. ₹832
 - ☐ B. ₹924
 - ☐ C. ₹837
 - ☐ D. ₹780

Q.25 In $\triangle ABC$, $DE \parallel AC$, where D and E are the points on sides AB and BC respectively. If $BD = 15$ cm and $AD = 4$ cm, then what is the ratio of the area of trapezium ADEC?

- Ans
- ☒ A. 225 : 136
 - ☐ B. 226 : 137
 - ☐ C. 137 : 226
 - ☐ D. 136 : 225

Q.26 The position(s) of how many letters will remain unchanged if each letter in the word **BURDENS** is arranged in the English alphabetical order?

- Ans**
- ☒ A. 2
 - ☒ B. 4
 - ☒ C. 3
 - ☒ D. 1

Q.27 In this question, a question is followed by two statements numbered (I) and (II). You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and decide the appropriate answer.

Among 5 poles, G, H, I, S and W each having a different height, which pole is the tallest?

(I) G is taller than only two poles. H is taller than W and no pole has height between H and W.

(II) S is taller than W.

- Ans**
- ☒ A. Data in Statement II alone is sufficient to answer the question while data in statement I is not
 - ☒ B. Data in Statement I alone is sufficient to answer the question while data in statement II is not
 - ☒ C. Both statements I and II together (and not statement I alone or statement II alone) are sufficient to answer the question
 - ☒ D. Both statements I and II together are NOT sufficient to answer the question

Q.28 What should come in place of '?' in the given series?
5 16 22 33 39 50 56 ?

- Ans**
- ☒ A. 62
 - ☒ B. 67
 - ☒ C. 68
 - ☒ D. 64

Q.29 What should come in place of the question mark (?) in the given series based on the English alphabetical order?

LNI MOJ NPK OQL ?

- Ans**
- ☒ A. PRM
 - ☒ B. PRN
 - ☒ C. PSM
 - ☒ D. PSN

Q.30 GJFC is related to YBXU in a certain way based on the English alphabetical order. In the same way, VYUR is related to NQMJ. To which of the following is BEAX related, following the same logic?

- Ans**
- ☒ A. TXRZ
 - ☒ B. TWSP
 - ☒ C. TVRP
 - ☒ D. TWRP

Q.31 Based on the alphabetical order, three of the following four are alike in a certain way and thus form a group. Which is the one that 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)

- Ans**
- ☒ A. MSZ
 - ☒ B. KQV
 - ☒ C. QWB
 - ☒ D. EKP

- Q.32** In this question, a group of number/symbol is coded using letter codes as per the codes given below and the conditions which follow. The correct combination of codes following the conditions is your answer. If none of the conditions follow, then codes for the respective Number/Symbol to be followed directly as given in the table.

Number/Symbol % 6 1 + 8 \$ ^ 3 = 5

Code MPSVYADFI L

Conditions –

- (i) If the first element is a symbol and the last a number, the codes for these two (the first and the last elements) are to be interchanged.
- (ii) If the first element is an odd number and the last an even number, the first and last elements are to be coded as ©.
- (iii) If both second and third elements are perfect squares, the third element is to be coded as the code for the second element.

What is the code for the following group of number-symbols?

\$ 3 1 ^ 5

- Ans**
- ☒ A. A F F D L
 - ☒ B. L S S D A
 - ☒ C. L F S D A
 - ☒ D. A F S D L

- Q.33** If 'A' stands for '÷', 'B' stands for 'x', 'C' stands for '+' and 'D' stands for '-', what will come in place of the question mark '?' in the following equation?
279 B 52 A 468 C 624 D 438 = ?

- Ans**
- ☒ A. 323
 - ☒ B. 217
 - ☒ C. 232
 - ☒ D. 161

- Q.34** If 'A' stands for '÷', 'B' stands for 'x', 'C' stands for '+', and 'D' stands for '-', what will come in place of the question mark (?) in the following equation?
17 C 35 A 6 B 18 D 4 = ?

- Ans**
- ☒ A. 120
 - ☒ B. 118
 - ☒ C. 117
 - ☒ D. 119

- Q.35** Refer to the following letter, symbol series and answer the question. Counting to be done from left to right only.

(Left) F & I Y @ J Y C * A # & K S P \$ B M (Right)

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

- Ans**
- ☒ A. Two
 - ☒ B. Three
 - ☒ C. One
 - ☒ D. None

- Q.36** Refer to the following letter series and answer the question. Counting to be done from left to right only.

(Left) P E R G T F V N J I O K U Y H K Y T B H R D T V W (Right)

How many such consonants are there each of which is immediately preceded by a vowel and also immediately followed by a consonant?

- Ans**
- ☒ A. None
 - ☒ B. One
 - ☒ C. Three
 - ☒ D. Two

Q.37 Seven boxes M, N, O, P, Q, R and S are kept one over the other but not necessarily in the same order. Only Q is kept above O. Only S is kept between O and P. Only M is kept below R. How many boxes are kept between N and M?

- Ans**
- ☒ A. Four
 - ☒ B. Three
 - ☒ C. One
 - ☒ D. Two

Q.38 In a certain code language, 'trust the process' is written as 'zb ac tm' and 'I trust you' is coded as 'jk zb mb'. How is 'trust' coded in the given language?

- Ans**
- ☒ A. zb
 - ☒ B. tm
 - ☒ C. jk
 - ☒ D. mb

Q.39 If 1 is added to each odd digit and 2 is subtracted from each even digit in the number 6238571, how many digits will appear more than once in the new number thus formed?

- Ans**
- ☒ A. 1
 - ☒ B. 2
 - ☒ C. 0
 - ☒ D. 3

Q.40 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.)

- Ans**
- ☒ A. MPT
 - ☒ B. TWB
 - ☒ C. FIN
 - ☒ D. LOT

Q.41 Seven people, L, M, N, O, P, Q, and R are sitting in a row facing north. Only one person sits between M and O. Q sits to the immediate right of R. P sits third to the left of L. Only two people sit between M and P. N sits to the immediate left of O. If the person sitting exactly in the middle of the row swaps his position with the person at the extreme right end, who will now sit at the extreme right end?

- Ans**
- ☒ A. P
 - ☒ B. N
 - ☒ C. O
 - ☒ D. L

Q.42 21 is related to 64 following a certain logic. Following the same logic, 24 is related to 73. To which of the following is 34 related, following the same logic?

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

- Ans**
- ☒ A. 92
 - ☒ B. 103
 - ☒ C. 123
 - ☒ D. 112

Q.43 Karan is the brother of Nisha. Nisha is the son of Rakesh. Rakesh is the father of Vikram. Vikram is the wife of Pooja. How is Karan related to Pooja? (Names are gender neutral)

- Ans**
- ☐ A. Father
 - ☐ B. Wife's father
 - ☐ C. Brother
 - ☒ D. Wife's brother

Q.44 Vikas starts from Point A and drives 11 km towards north. He then takes a right turn, drives 13 km, turns right and drives 12 km. He then takes a right turn and drives 17 km. He takes a final right turn, drives 1 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-degree turns only unless specified.)

- Ans**
- ☐ A. 7 km to the west
 - ☐ B. 4 km to the west
 - ☒ C. 4 km to the east
 - ☐ D. 7 km to the east

Q.45 What should come in place of '?' in the given series?

1 8 17 28 41 ?

- Ans**
- ☒ A. 56
 - ☐ B. 80
 - ☐ C. 120
 - ☐ D. 52

Q.46 Each vowel in the word PLUMBER is changed to the letter immediately following it in the English alphabetical order and each consonant is changed to the letter immediately preceding it in the English alphabetical order. How many vowels are there in the group of letters thus formed?

- Ans**
- ☒ A. 2
 - ☐ B. 3
 - ☐ C. 0
 - ☐ D. 1

Q.47 In a certain code language, 'JOIN' is coded as '4978' and 'COIN' is coded as '2879'. What is the code for 'C' in the given code language?

- Ans**
- ☒ A. 2
 - ☐ B. 4
 - ☐ C. 9
 - ☐ D. 8

Q.48 A question is followed by two statements numbered (I) and (II). You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and decide the appropriate answer.

Question:

Among 5 poles, W, O, K, G and Y each having a different height, which pole is the shortest?

Statements:

- I. G is taller than only one pole. W is taller than O.
- II. G is taller than Y.

- Ans**
- ☐ A. Data in Statement I alone is sufficient to answer the question while data in statement II is not
 - ☐ B. Both statements I and II together are NOT sufficient to answer the question
 - ☒ C. Both statements I and II together (and not statement I alone or statement II alone) are sufficient to answer the question.
 - ☐ D. Data in Statement II alone is sufficient to answer the question while data in statement I is not

Q.49 Select the pair that follows the same pattern as that followed by the two pairs given below. Both pairs follow the same pattern.

EFG-IJK
BCD-FGH

- Ans
- ☐ A. JJJ-MNO
 - ☐ B. JKL-MOO
 - ☒ C. JKL-NOP
 - ☐ D. JJJ-NOP

Q.50 A, B, C, D, E and F live on six different floors of the same building. The lowermost floor in the building is numbered 1, the floor above it, number 2 and so on till the topmost floor is numbered 6. B lives on an odd numbered floor but not 3. The sum of floors on which B and F live is 7. C lives immediately below E. A lives on the top floor. How many people live between B and D?

- Ans
- ☐ A. 1
 - ☒ B. 3
 - ☐ C. 4
 - ☐ D. 2

Section : General Science

Q.51 Which condition is most favorable for the growth of fungi?

- Ans
- ☒ A. Warm and moist environment with abundant organic matter
 - ☐ B. Hot desert conditions with very low humidity
 - ☐ C. Extremely cold environment with frozen soil throughout the year
 - ☐ D. Cold and dry environment with intense sunlight

Q.52 If c is the speed of light in air and v is the speed of light in a medium, how is the refractive index n_m of that medium defined?

- Ans
- ☐ A. $n_m = v/c$
 - ☒ B. $n_m = c/v$
 - ☐ C. $n_m = c \times v$
 - ☐ D. $n_m = c - v$

Q.53 An object is placed at a distance of 10 cm from a convex lens. The lens has a magnification -3 . What is the position of the image?

- Ans
- ☐ A. -30.0 cm
 - ☐ B. $+5.0$ cm
 - ☒ C. $+30.0$ cm
 - ☐ D. -5.0 cm

Q.54 A patient is unable to move their arm voluntarily, but the arm still shows rhythmic contractions during sleep. Based on your understanding of muscular tissue, which tissue types are most likely involved in this phenomenon?

- Ans
- ☐ A. Both smooth and cardiac muscle are impaired, but skeletal muscle is functioning normally.
 - ☐ B. Only smooth muscle is functioning normally, but both skeletal and cardiac muscle are impaired.
 - ☒ C. Skeletal muscle is impaired, but smooth muscle is functioning normally.
 - ☐ D. All muscle types are functioning normally.

Q.55 A beam of white light passes through a glass prism and forms a spectrum on a screen. If you place a second identical prism after the first, inverted with respect to it, what will happen to the spectrum?

- Ans
- ☐ A. The spectrum will spread further apart
 - ☐ B. Two separate spectra will form
 - ☒ C. The spectrum will recombine into white light
 - ☐ D. The colors will remain separated but in reverse order

Q.56 What is the charge of a proton?

- Ans
- ☐ A. Negative
 - ☐ B. Neutral
 - ☐ C. No charge
 - ☒ D. Positive

Q.57 Muscle cramps during vigorous exercise occur due to accumulation of _____.

- Ans
- ☒ A. Lactic acid
 - ☐ B. Carbon dioxide
 - ☐ C. Ethanol
 - ☐ D. Oxygen

Q.58 Which equation correctly represents aerobic respiration?

- Ans
- ☐ A. $\text{Glucose} \rightarrow \text{Lactic acid} + \text{Energy}$
 - ☐ B. $\text{Glucose} \rightarrow \text{Alcohol} + \text{CO}_2 + \text{Energy}$
 - ☐ C. $\text{Glucose} + \text{CO}_2 \rightarrow \text{O}_2 + \text{H}_2\text{O} + \text{Energy}$
 - ☒ D. $\text{Glucose} + \text{O}_2 \rightarrow \text{CO}_2 + \text{H}_2\text{O} + \text{Energy}$

Q.59 Which human activity most significantly increases the risk of ground-level smog formation in large cities?

- Ans
- ☒ A. Operating gasoline-powered vehicles
 - ☐ B. Installing solar panels on rooftops
 - ☐ C. Recycling household waste regularly
 - ☐ D. Planting more trees along roads

Q.60 What will be the power delivered by a lamp that uses 120 joules of energy in 2 minutes?

- Ans
- ☒ A. 1 watt
 - ☐ B. 60 watt
 - ☐ C. 240 watt
 - ☐ D. 14400 watt

Q.61 If a molecule contains a central atom bonded to four other atoms and all bonds are single covalent, what is the most likely shape of this molecule?

- Ans
- ☐ A. The molecule is trigonal planar in shape.
 - ☒ B. The molecule is tetrahedral in shape.
 - ☐ C. The molecule is linear in shape.
 - ☐ D. The molecule is trigonal pyramidal in shape.

Q.62 Which branch of chemistry focuses primarily on the study of carbon-containing compounds?

- Ans
- ☐ A. Inorganic Chemistry
 - ☐ B. Analytical Chemistry
 - ☐ C. Physical Chemistry
 - ☒ D. Organic Chemistry

Q.63 Which of the following quantities is needed to calculate the work done by a constant force?

- Ans ☒ A. Magnitude of force and displacement
☐ B. Time taken for movement
☐ C. Only distance moved
☐ D. Only magnitude of force

Q.64 Which process explains the movement of water molecules through a selectively permeable membrane from an area of high concentration to low concentration?

- Ans ☒ A. Osmosis
☐ B. Diffusion
☐ C. Active transport
☐ D. Filtration

Q.65 When a compass is placed near the loop of a current-carrying circular coil, what does the compass needle's alignment reveal about the field lines produced by the coil?

- Ans ☒ A. The compass needle aligns tangentially to the circular field lines at that point, indicating the direction of the magnetic field.
☐ B. The compass needle always points directly toward the center of the coil, reflecting the field's inward direction.
☐ C. The compass needle aligns at right angles to the field lines, indicating the perpendicular nature of the field.
☐ D. The compass needle moves randomly without a fixed direction, showing fluctuating field lines.

Q.66 A student adds phenolphthalein and methyl orange separately to three different solutions P, Q, and R. The observations are:

Solution	Phenolphthalein	Methyl Orange
P	Colourless	Red
Q	Pink	Yellow
R	Colourless	orange

- Ans ☒ A. P – Acidic, Q – Basic, R – Neutral
☐ B. P – Neutral, Q – Acidic, R – Basic
☐ C. P – Acidic, Q – Neutral, R – Basic
☐ D. P – Basic, Q – Acidic, R – Neutral

Q.67 Which of the following molecules contains atoms of only one element?

- Ans ☐ A. CO₂
☐ B. HCl
☐ C. NH₃
☒ D. N₂

Q.68 When a ball rolls down a hill and comes to rest, how is the total energy of the ball-earth system maintained?

- Ans ☐ A. All the energy remains as kinetic energy
☐ B. All the energy remains as potential energy
☒ C. The initial potential energy becomes heat and sound energy
☐ D. The total energy is destroyed as the ball stops

Q.69 How is oxygen transported from the lungs to body tissues in humans?

- Ans ☐ A. Converted chemically into carbon dioxide
☐ B. Dissolved entirely within the blood plasma
☒ C. Bound to haemoglobin in red blood cells
☐ D. As free gas bubbles in the bloodstream

Q.70 Which of the following best describes the type of bond formed when a metal reacts with a non-metal?

- Ans
- ☐ A. Hydrogen bond
 - ☐ B. Covalent bond
 - ☐ C. Metallic bond
 - ☒ D. Ionic bond

Q.71 Which of the following describes the function of the scrotum that houses the testes?

- Ans
- ☐ A. To produce testosterone hormones
 - ☐ B. To allow sperm to travel a shorter distance
 - ☐ C. To store semen before ejaculation
 - ☒ D. To keep the testes cool for sperm production

Q.72 If the atomic masses are: potassium 39 u, nitrogen 14 u, and oxygen 16 u, what is the formula unit mass of potassium nitrate (KNO_3)?

- Ans
- ☒ A. 101 u
 - ☐ B. 69 u
 - ☐ C. 68 u
 - ☐ D. 70 u

Q.73 A student is given four samples: muddy water, air, milk, and salt dissolved in water. The task is to select the one that best represents a heterogeneous mixture. Which sample should the student choose?

- Ans
- ☐ A. Air
 - ☐ B. Salt water
 - ☐ C. Milk
 - ☒ D. Muddy water

Q.74 How does the spherical shape of Earth affect the distribution of solar energy?

- Ans
- ☒ A. Uneven spread of solar energy across different latitudes
 - ☐ B. All areas are equally warm by even spread of solar energy
 - ☐ C. It results in identical day lengths at all latitudes year around
 - ☐ D. It causes more sunlight to hit the poles than other latitudes

Q.75 Which of the following options explains why menstruation does not occur if fertilization takes place during the menstrual cycle?

- Ans
- ☐ A. The uterus develops directly into the placenta after fertilization.
 - ☐ B. The ovary permanently stops producing and releasing egg cells.
 - ☒ C. The lining of the uterus is kept intact to support the developing embryo.
 - ☐ D. The lining of the uterus is shed immediately after fertilization.

Q.76 A student incorrectly calculates a positive object distance while using the lens formula for a real object. Based on the sign convention, what is the conceptual error in this calculation?

- Ans
- ☐ A. The sign of object distance depends on the object height.
 - ☐ B. The sign of object distance depends on the focal length.
 - ☐ C. Object distance should always be positive for a real object.
 - ☒ D. Object distance should be negative for a real object as it is placed to the left of the lens.

Q.77 Which of the following characteristics helps gymnosperms survive in cold and dry regions?

- Ans
- ☐ A. They reproduce only in aquatic habitats.
 - ☒ B. They have needle-like or scale-like leaves that reduce water loss.
 - ☐ C. They have large, broad leaves that increase water loss.
 - ☐ D. They produce bright, colorful flowers to attract insects.

Q.78 A household uses an electric iron, a refrigerator, and an LED television simultaneously. What key factor must be considered to ensure safe operation without overloading the electrical circuit?

- Ans
- ☐ A. The sequence in which appliances are switched on must be regulated.
 - ☐ B. The voltage supplied to each appliance should be identical.
 - ☐ C. The thickness of the connecting wire should be increased for each additional appliance.
 - ☒ D. The total current drawn by all appliances must not exceed the circuit's rated capacity.

Q.79 Two resistors of $3\ \Omega$ and $X\ \Omega$ are connected in parallel such that the effective resistance is $2\ \Omega$. What is the value of X (in Ω)?

- Ans
- ☐ A. 3
 - ☒ B. 6
 - ☐ C. $1/3$
 - ☐ D. $1/6$

Q.80 A train moves with a constant acceleration and its velocity-time graph is a straight line. If the graph passes through the points (0 s, 5 m/s) and (8 s, 21 m/s), what is the total displacement of the train in 8 seconds?

- Ans
- ☐ A. 128 m
 - ☐ B. 112 m
 - ☒ C. 104 m
 - ☐ D. 168 m

Q.81 Formation of slaked lime is an example of:

- Ans
- ☐ A. double decomposition reaction
 - ☒ B. combination reaction
 - ☐ C. decomposition reaction
 - ☐ D. displacement reaction

Q.82 Which branch of chemistry primarily focuses on the study of carbon-containing compounds, and is essential for understanding the structure of medicines and plastics?

- Ans
- ☐ A. Analytical chemistry
 - ☐ B. Inorganic chemistry
 - ☐ C. Physical chemistry
 - ☒ D. Organic chemistry

Q.83 What does the presence of parallel straight magnetic field lines inside a solenoid indicate?

- Ans
- ☐ A. The magnetic field varies from point to point inside the solenoid
 - ☒ B. The magnetic field is uniform throughout the solenoid
 - ☐ C. The magnetic field is strongest near the ends of the solenoid
 - ☐ D. There is no magnetic field inside the solenoid

Q.84 Which of the following is NOT a part of Xylem tissue?

- Ans**
- ☐ A. Tracheids
 - ☒ B. Sieve tube
 - ☐ C. Xylem fibres
 - ☐ D. Vessels

Q.85 Which of the following processes is responsible for producing gametes with half the number of chromosomes found in body cells?

- Ans**
- ☐ A. Fertilization
 - ☐ B. Mitosis
 - ☒ C. Meiosis
 - ☐ D. Differentiation

Q.86 Why is the reaction between hydrochloric acid and sodium hydroxide important in industry?

- Ans**
- ☐ A. It directly produces soap
 - ☒ B. It helps in making table salt and water
 - ☐ C. It is used to generate electricity
 - ☐ D. It is required for ammonia manufacture

Q.87 An eye lens forms a real, inverted image 2 cm behind the retina for a distant object. What error in the eye's structure could cause this situation?

- Ans**
- ☐ A. Lens more curved than normal
 - ☐ B. Eyeball longer than normal
 - ☐ C. Thickening of the retina
 - ☒ D. Eyeball shorter than normal

Q.88 Which of the following is an example of a suspension?

- Ans**
- ☐ A. Air
 - ☐ B. Lemonade
 - ☒ C. Muddy water
 - ☐ D. Saltwater

Q.89 A student observes two different musical notes from two sources. Note X has a greater number of compressions passing a fixed point per second than Note Y, but both have the same loudness. Based on the characteristics of sound, what can be concluded about Note X compared to Note Y?

- Ans**
- ☐ A. Note X travels faster than Note Y in air.
 - ☐ B. Note X has higher amplitude but equal frequency compared to Note Y.
 - ☒ C. Note X has a higher frequency than Note Y but equal amplitude.
 - ☐ D. Note X has lower frequency but higher amplitude than Note Y.

Q.90 What happens when more solute is added to a fixed amount of solvent in a solution?

- Ans**
- ☒ A. The concentration of the solution increases as more solute is added.
 - ☐ B. The solution turns into a pure solvent when more solute is added.
 - ☐ C. The concentration of the solution remains unchanged when solute is added.
 - ☐ D. The solution becomes less concentrated as more solute is added.

Section : General Awareness

- Q.91** In July 2026, the official opening of the International Center for Civilizational Studies "Manas and Mahabharata" and the presentation of the first-ever Hindi translation of "Manas" marked a significant milestone in cultural cooperation between India and which country?
- Ans** ☒ A. Kazakhstan
☒ B. Kyrgyzstan
☒ C. Armenia
☒ D. Georgia
- Q.92** At its August 2026 meeting, the Monetary Policy Committee (MPC) decided to keep the policy repo rate under the liquidity adjustment facility (LAF) unchanged at what percentage?
- Ans** ☒ A. 7.26%
☒ B. 2.12%
☒ C. 5.25%
☒ D. 9.88%
- Q.93** According to late 2025 news, what government initiative which provides oxo-biodegradable sanitary napkins at ₹1 per pad, has made cumulative sales of ₹ 96.30 crore as of Dec 2025?
- Ans** ☒ A. Suvidha Napkins via Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP)
☒ B. Suvidha Napkins via Menstrual Hygiene scheme (MH)
☒ C. Suvidha Napkins via Beti Bachao Beti Padhao (BBBP)
☒ D. Suvidha Napkins via Rashtriya Kishor Swasthya Karyakram (RKSK)
- Q.94** According to Provisional Estimates (PE) of Annual Gross Domestic Product (GDP) for the Financial Year (FY) (2025-26) and Quarterly Estimates of GDP for the Fourth Quarter (Q4, January-March) of FY 2025-26, released in June 2026, what was the estimated growth rate of India's Real GDP for FY 2025-26?
- Ans** ☒ A. 7.1%
☒ B. 7.4%
☒ C. 7.7%
☒ D. 6.9%
- Q.95** In its Monetary Policy Committee (MPC) meeting held in February 2026, the RBI kept the repo rate unchanged and retained its policy stance as which of the following, despite one member dissenting in favour of a more accommodative approach?
- Ans** ☒ A. Restrictive
☒ B. Accommodative
☒ C. Neutral
☒ D. Calibrated Tightening
- Q.96** Who among the following defeated Sheetal Devi to win the gold medal in the compound women's final at the World Archery Para Series event in Bangkok in April 2026?
- Ans** ☒ A. Harvinder Kaur
☒ B. Payal Nag
☒ C. Bhawna Sharma
☒ D. Pooja Jatyam
- Q.97** The Corporate Laws (Amendment) Bill, 2026, introduced in March 2026, seeks to amend which two Acts?
- Ans** ☒ A. Limited Liability Partnership Act, 2008, and Competition Act, 2002
☒ B. Companies Act, 2013, and Limited Liability Partnership Act, 2008
☒ C. Companies Act, 2013, and Insolvency and Bankruptcy Code, 2016
☒ D. Companies Act, 2013, and Securities Contracts (Regulation) Act, 1956

Q.98 What was the Unemployment Rate (UR) for persons aged 15 years and above, according to the Periodic Labour Force Survey (PLFS) data released in November 2025?

- Ans**
- ☒ A. 4.7%
 - ☐ B. 6.0%
 - ☐ C. 3.5%
 - ☐ D. 5.2%

Q.99 Who took oath as the Chief Minister of Manipur in February 2026?

- Ans**
- ☐ A. Konthoujam Govindas Singh
 - ☐ B. N. Biren Singh
 - ☐ C. Nemcha Kipgen
 - ☒ D. Yumnam Khemchand Singh

Q.100 In July 2026, with which base year was the trial version of the Index of Services Production (ISP) launched?

- Ans**
- ☐ A. 2023–24
 - ☐ B. 2022–23
 - ☒ C. 2024–25
 - ☐ D. 2021–22



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सीईएन ०२/२०२६ - तकनीशियन ग्रेड I सिगनल और तकनीशियन ग्रेड III
CEN 02/2026 - Technician Grade I Signal and Technician Grade III



Test Date	06/10/2026
Test Time	4:30 PM - 6:00 PM
Subject	RRB Technician Grade III

*** Note**

Correct Answer will carry 1 mark per Question.

Incorrect Answer will carry 1/3 Negative mark per Question.

1. Options shown in green color with a tick icon are correct.

2. Chosen option on the right of the question indicates the option selected by the candidate.

Section : Mathematics

Q.1 If $\frac{1 + \cos A}{1 - \cos A} = \left(\frac{m}{n}\right)^2$, then find the value of $\operatorname{cosec} A - \cot A$.

- Ans ☒ A. $\frac{m}{n}$
☒ B. $\frac{n}{m}$
☒ C. $m - n$
☒ D. $m + n$

Q.2 A school organised a science exhibition where projects were evaluated out of 50 marks. The average score of Physics projects was 42 and that of Computer Science projects was 46. If the overall average score of all 40 projects was 44.5, find the number of Physics projects presented in the exhibition.

- Ans ☒ A. 14
☒ B. 18
☒ C. 15
☒ D. 12

Q.3 In a logistics network, the numbers of parcels delivered respectively by Hub X and Hub Y are in the ratio 13 : 21. If Hub X delivers 160 more parcels and Hub Y delivers 240 more parcels, the ratio becomes 15 : 23. How many parcels were originally delivered by Hub X?

- Ans ☒ A. 55
☒ B. 75
☒ C. 85
☒ D. 65

- Q.4** Pipes A and B can fill a cistern in 12 hours, Pipes B and C can fill it in 14 hours and Pipes C and A can fill it in 15 hours. All three are opened together for 6 hours, then Pipes B and C are closed and Pipe A continues alone. Find the time taken by Pipe A to fill the remaining part of the cistern.

Ans

- ☒ A. $7\frac{4}{9}$ hours
☒ B. $6\frac{3}{5}$ hours
☒ C. $9\frac{5}{13}$ hours
☒ D. $8\frac{6}{11}$ hours

- Q.5** The modal class of the following grouped frequency distribution is 30–40, and the mode is 35.

Class Interval	10–20	20–30	30–40	40–50	50–60
Frequency	4	x	16	y	8

If the total frequency is 50, what are the values of x and y, respectively?

Ans

- ☒ A. 12 and 10
☒ B. 14 and 8
☒ C. 11 and 11
☒ D. 8 and 14

- Q.6** In $\triangle RST$, $RS = 12$ cm, $ST = 10$ cm, $\angle RST = 50^\circ$, and $\angle SRT = \angle UVW = 50^\circ$, and $\angle VUW = (2y + 20)^\circ$. What is the measure of $\angle U$?

Ans

- ☒ A. 70°
☒ B. 60°
☒ C. 80°
☒ D. 50°

- Q.7** Four years ago from now, Aman was 9 times as old as Chaman. After 4 years from now, he will be 5 times as old as Chaman will then be. The present age of Aman (in years) is:

Ans

- ☒ A. 82
☒ B. 76
☒ C. 79
☒ D. 77

- Q.8** The sum of Riya's age and twice Ayushi's age is 29 years. Riya's father is five times as old as Riya, and Ayushi's brother is 2 years older than Ayushi. The sum of the ages of Riya's father and Ayushi's brother is 48 years. Find the sum of the ages (in years) of Ayushi and Riya.

Ans

- ☒ A. 21
☒ B. 18
☒ C. 23
☒ D. 14

- Q.9** What is the least number that should be added to 91 so that the result is coprime with 60?

Ans

- ☒ A. 5
☒ B. 6
☒ C. 4
☒ D. 3

Q.10 A, B, and C can complete a project alone in 12 days, 18 days, and 24 days, respectively. If they all work together for 4 days, what fraction of the project will remain incomplete?

- Ans
- ☒ A. $\frac{11}{18}$
 - ☒ B. $\frac{13}{18}$
 - ☒ C. $\frac{1}{18}$
 - ☒ D. $\frac{5}{18}$

Q.11 If 20% of k is 10 less than 2400% of 10, then k is:

- Ans
- ☒ A. 1190
 - ☒ B. 1150
 - ☒ C. 1110
 - ☒ D. 1130

Q.12 The ratio of the length, the breadth, and the height of a closed cuboid is given as 4 : 3 : 2, and the height of this cuboid is given as 14 cm. Find the total surface area (in cm^2) of the cuboid.

- Ans
- ☒ A. 2548
 - ☒ B. 2528
 - ☒ C. 2498
 - ☒ D. 2598

Q.13 The 6-digit number A678B3 is divisible by 3. Find the least possible value of (A+B).

- Ans
- ☒ A. 4
 - ☒ B. 7
 - ☒ C. 1
 - ☒ D. 3

Q.14 Find the compound interest on ₹2,000 at 20% per annum for 18 months when interest is compounded half-yearly.

- Ans
- ☒ A. ₹679
 - ☒ B. ₹662
 - ☒ C. ₹650
 - ☒ D. ₹670

Q.15 Three solid spheres each of radius 7 cm are melted to form a cylinder of radius 7 cm. What is the height of the cylinder?

(Take $\pi = \frac{22}{7}$)

- Ans
- ☒ A. 30 cm
 - ☒ B. 28 cm
 - ☒ C. 32 cm
 - ☒ D. 34 cm

Q.16 A principal of ₹25,000 is invested at 16% per annum. What is the difference in the compound interest earned after 1.5 years if the interest is compounded annually and semi-annually, respectively?

- Ans
- ☒ A. ₹178.80
 - ☒ B. ₹172.80
 - ☒ C. ₹168.80
 - ☒ D. ₹164.80

Q.17 By selling a shirt at ₹3600, a shopkeeper earned 20% profit. The cost price of the shirt was:

- Ans
- ☐ A. ₹2880
 - ☐ B. ₹2800
 - ☐ C. ₹3200
 - ☒ D. ₹3000

Q.18 A man travels from place A to place B at a speed of 10 m/s in X minutes. He then moves from place B to C with a speed of 45 km/hr in Y minutes. If the ratio of the times X and Y is 2:3, then the average speed of the whole journey is:

- Ans
- ☐ A. 42 km/hr
 - ☐ B. 40 km/hr
 - ☒ C. 41.4 km/hr
 - ☐ D. 43.5 km/hr

Q.19 A pole casts a shadow of 12 m when a 1.5 m tall boy casts a shadow of 2 m at the same time. The height of the pole is:

- Ans
- ☐ A. 6 m
 - ☐ B. 15 m
 - ☐ C. 12 m
 - ☒ D. 9 m

Q.20 Jahanvi bought a toy for ₹374, decorated it at a cost of ₹11, and sold the toy for ₹140. Find the loss or gain percentage.

- Ans
- ☐ A. $\frac{700}{11}\%$ profit
 - ☐ B. $\frac{710}{11}\%$ profit
 - ☐ C. 700% loss
 - ☒ D. $\frac{700}{11}\%$ loss

Q.21 A man has invested ₹57500 at a rate of 6% per annum simple interest for 3 years. Find the amount (in ₹) that he will receive after 3 years.

- Ans
- ☐ A. 68850
 - ☐ B. 10350
 - ☒ C. 67850
 - ☐ D. 11350

Q.22 A and B made the decision to launch a joint venture. It was decided that A and B will divide the profit in the ratio 2:X. If B's profit share is ₹5976 and the overall profit at the end of the year is ₹9960, then the value of X is:

- Ans
- ☐ A. 1
 - ☒ B. 3
 - ☐ C. 5
 - ☐ D. 7

Q.23 A store offers a "Buy 5 Get 2a free" scheme along with a trade discount of 10%. If the effective discount given to the customer is 50%, what is the value of a?

- Ans
- ☐ A. 1
 - ☐ B. 3
 - ☐ C. 4
 - ☒ D. 2

Q.24 The average sale of cars by a dealer per day in the month of March, other than on Saturdays and Sundays, is 177. The average sale of cars per day on Sundays is 151. What is the average sale of cars per day on Saturdays, if the first Saturday is on the 3rd of March and average sale of cars per day for the whole month is 148?

- Ans**
- ☒ A. 17
 - ☒ B. 23
 - ☒ C. 18
 - ☒ D. 19

Q.25 In a 1452 m circular race, Raman finishes one round in 33 seconds and Mohan finishes one round in 66 seconds. How many different meeting points are there on circumference if they are running in a same direction?

- Ans**
- ☒ A. 1
 - ☒ B. 4
 - ☒ C. 5
 - ☒ D. 6

Section : General Intelligence and Reasoning

Q.26 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?

$$15 \text{ B } 3 \text{ D } 35 \text{ A } 5 \text{ C } 12 = ?$$

- Ans**
- ☒ A. 57
 - ☒ B. 52
 - ☒ C. 50
 - ☒ D. 45

Q.27 The position(s) of how many letters will remain unchanged if each letter in the word HISTORY is arranged in alphabetical order?

- Ans**
- ☒ A. Three
 - ☒ B. None
 - ☒ C. One
 - ☒ D. Two

Q.28 A question is followed by two statements numbered (I) and (II). You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and decide the appropriate answer.

Question:

Among 5 poles, W, O, K, G and Y each having a different height, which pole is the tallest?

Statements:

I. K is taller than only one pole. G is shorter than O but taller than W.

II. G is taller than Y.

- Ans**
- ☒ A. Both statements I and II together (and not statement I alone or statement II alone) are sufficient to answer the question.
 - ☒ B. Data in Statement I alone is sufficient to answer the question while data in statement II is not
 - ☒ C. Data in Statement II alone is sufficient to answer the question while data in statement I is not
 - ☒ D. Both statements I and II together are NOT sufficient to answer the question

Q.29 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 is the one that 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.)

- Ans
- ☐ A. LM - OQ
 - ☐ B. PQ - SU
 - ☐ C. EF - HJ
 - ☒ D. UV - WX

Q.30 Refer to the following letter, symbol series and answer the question.

(Left) F & I T @ J Y C * A # U K L P \$ B M (Right)

If all the symbols are dropped from the series, which of the following will be sixth from the right?

- Ans
- ☐ A. K
 - ☐ B. P
 - ☐ C. B
 - ☒ D. U

Q.31 What should come in place of '?' in the given series?
11 13 20 22 29 31 ?

- Ans
- ☐ A. 35
 - ☒ B. 38
 - ☐ C. 37
 - ☐ D. 33

Q.32 A, B, C, D, E, F, G sit in a row with their face towards NORTH direction. E sits at the extreme left end. There are only two people between A and C. C sits between F and D. B sits between E and F. G sits to the immediate left of A. Who sits at the extreme right end of the row?

- Ans
- ☐ A. D
 - ☐ B. C
 - ☒ C. A
 - ☐ D. E

Q.33 Seven boxes M, N, O, P, Q, R and S are kept one over the other but not necessarily in the same order. Only two boxes are kept between Q and O. Only N is kept above P. No box is kept below O. S is kept at some place below R but at some place above M. Which box is kept third above M?

- Ans
- ☐ A. P
 - ☒ B. R
 - ☐ C. O
 - ☐ D. N

Q.34 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?
12 B 3 D 24 A 4 C 2 = ? D 8

- Ans
- ☐ A. 50
 - ☒ B. 40
 - ☐ C. 30
 - ☐ D. 60

Q.35 Select the pair which follows the same pattern as that followed by the two pairs given below. Both pairs follow the same pattern.

ACB–CED

WYX–YAZ

- Ans**
- ✓ A. HJI–JLK
 - ✗ B. HIG–IKJ
 - ✗ C. HJI–ILJ
 - ✗ D. HIG–JLK

Q.36 If the letters of the word JOURNEY are arranged in the English alphabetical order, what is the difference in the alphabetical positions (in the English alphabet) between the first and last letters of the new arrangement?

- Ans**
- ✓ A. 20
 - ✗ B. 15
 - ✗ C. 5
 - ✗ D. 10

Q.37 In a certain code language, 'fan dust mop' is coded as 'cs mz so' and 'fog mop tune' is coded as 'mz gi oz'. How is 'mop' coded in the given language?

- Ans**
- ✓ A. mz
 - ✗ B. so
 - ✗ C. gi
 - ✗ D. cs

Q.38 In this question, a question is followed by two statements numbered (I) and (II). You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and decide the appropriate answer.

Among 5 poles, B, F, R, T and X each having a different height, which pole is the tallest?

(I) B is taller than T but shorter than X. B is shorter than only one pole.

(II) T is taller than F.

- Ans**
- ✗ A. Both statements I and II together (and not statement I alone or statement II alone) are sufficient to answer the question
 - ✓ B. Data in Statement I alone is sufficient to answer the question while data in statement II is not
 - ✗ C. Both statements I and II together are NOT sufficient to answer the question
 - ✗ D. Data in Statement II alone is sufficient to answer the question while data in statement I is not

Q.39 Refer to the following letter series and answer the question. Counting to be done from left to right only.

(Left) H Y B V F B J I N U H O V E X G V C T E R K B M (Right)

How many such consonants are there each of which is immediately preceded by a vowel and also immediately followed by a vowel?

- Ans**
- ✗ A. One
 - ✗ B. Two
 - ✓ C. Three
 - ✗ D. None

Q.40 Select the pair that follows the same pattern as that followed by the two pairs given below. Both pairs follow the same pattern.

STV–XYA

QRT–VWY

- Ans**
- ✗ A. FGI–JLM
 - ✓ B. FGI–KLN
 - ✗ C. FFG–KLN
 - ✗ D. FFG–JKM

Q.41 24 is related to 96 following a certain logic. Following the same logic, 28 is related to 112. To which of the following is 36 related, following the same logic?
(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.)

- Ans**
- ☒ A. 156
 - ☒ B. 144
 - ☒ C. 132
 - ☒ D. 168

Q.42 Each of the digits in the number 3147958 is arranged in ascending order from left to right. The position of how many digits will remain unchanged as compared to that in the original number?

- Ans**
- ☒ A. Three
 - ☒ B. Two
 - ☒ C. One
 - ☒ D. More than three

Q.43 What should come in place of '?' in the given series?

64 32 16 8 4 ?

- Ans**
- ☒ A. 1
 - ☒ B. 3
 - ☒ C. 2
 - ☒ D. 4

Q.44 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.)

- Ans**
- ☒ A. XVZ
 - ☒ B. HFJ
 - ☒ C. GFI
 - ☒ D. IGK

Q.45 Mr. Riek starts from Point A and walks 6 km towards South. He then takes a left turn, walks 9 km, turns left and walks 16 km. He then takes a left turn and walks 18 km. He takes a final left turn, walks 10 km and stops at Point P. How far (shortest distance) and towards which direction should he walk in order to reach Point A again? (All turns are 90 degrees turns only unless specified)

- Ans**
- ☒ A. 9 km to the east
 - ☒ B. 8 km to the north
 - ☒ C. 10 km to the west
 - ☒ D. 7 km to the south

Q.46 A, B, C, D, E and F live on six different floors of the same building. The lowermost floor in the building is numbered 1, the floor above it, number 2 and so on till the topmost floor is numbered 6.

D lives on an odd numbered floor but not 3. The sum of floors on which A and D live is 4. Only 3 people live between C and E. F lives immediately above B. The sum of floors on which B and C live is 10.

What is the sum of floors on which A and E live?

- Ans**
- ☒ A. 5
 - ☒ B. 8
 - ☒ C. 6
 - ☒ D. 7

Q.47 What should come in place of ? in the given series based on the English alphabetical order?

DEF, GHI, JKL, MNO, ?

- Ans**
- ☒ A. OPQ
 - ☒ B. NML
 - ☒ C. PQR
 - ☒ D. QRS

Q.48 In a certain code language, 'SHOE' is coded as '2516' and 'ROSE' is coded as '7126'. What is the code for 'R' in the given code language?

- Ans**
- ☒ A. 5
 - ☒ B. 7
 - ☒ C. 6
 - ☒ D. 1

Q.49 In this question, a group of number/symbol is coded using letter codes as per the codes given below and the conditions which follow. The correct combination of codes following the conditions is your answer. If none of the conditions follow, then codes for the respective Number/Symbol are to be followed directly as given in the table.

Number/symbol 2 @ 8 # 5 % 1 & 7 \$ 4 + 9 6

Code B M U R K T H F P D A L W Q

Conditions –

- (i) If the first element is a symbol, code the third element as ©.
- (ii) If the second element is a symbol, code the fifth element as ©.
- (iii) If the fourth element is a symbol, code the first element as ©.

What is the code for the following group of number-symbols?
4@951

- Ans**
- ☒ A. AMWK©
 - ☒ B. ©MWKH
 - ☒ C. AM©KH
 - ☒ D. AMWKH

Q.50 Anita is the wife of Suresh. Suresh is the brother of Mahesh. Mahesh is the son of Harish. Harish is the father of Kavya. How is Anita related to Kavya?

- Ans**
- ☒ A. Daughter
 - ☒ B. Brother's daughter
 - ☒ C. Brother's wife
 - ☒ D. Wife

Section : General Science

Q.51 Which subatomic particle carries a negative charge in an atom?

- Ans**
- ☒ A. Neutron
 - ☒ B. Positron
 - ☒ C. Electron
 - ☒ D. Proton

Q.52 A student is asked to design an experiment using a concave mirror to locate its principal focus. She position a parallel beam of light to strike the mirror and observe the reflected rays meeting at a point. How should this point be described in the context of the mirror's features?

- Ans**
- ☒ A. It is the pole of the concave mirror
 - ☒ B. It is a random point on the principal axis
 - ☒ C. It is the principal focus of the concave mirror
 - ☒ D. It is the center of curvature of the mirror

Q.53 The balanced word equation for the reaction between magnesium carbonate and hydrochloric acid is:

- Ans
- ☐ A. Magnesium carbonate plus hydrochloric acid gives magnesium hydroxide and water
 - ☒ B. Magnesium carbonate plus hydrochloric acid gives magnesium chloride, carbon dioxide, and water
 - ☐ C. Magnesium carbonate plus hydrochloric acid gives magnesium sulfate and oxygen
 - ☐ D. Magnesium carbonate plus hydrochloric acid gives magnesium oxide and hydrogen

Q.54 In all three equations of motion, the acceleration is assumed to be _____.

- Ans
- ☐ A. Random
 - ☐ B. Decreasing
 - ☒ C. Constant
 - ☐ D. Increasing

Q.55 Which blood vessels have extremely thin walls to allow the exchange of materials between the blood and surrounding tissue cells?

- Ans
- ☐ A. Veins
 - ☒ B. Capillaries
 - ☐ C. Vena cava
 - ☐ D. Arteries

Q.56 Which description best represents Thomson's atomic model?

- Ans
- ☐ A. Electrons revolve in circular orbits around nucleus
 - ☐ B. An atom is a solid neutral sphere without particles
 - ☐ C. An atom has a nucleus composed only of protons
 - ☒ D. Electrons are embedded in a positively charged sphere

Q.57 An object is moving with uniform velocity, and a force acts in the opposite direction to stop it. What is the sign of the work done by this force?

- Ans
- ☐ A. Positive, because the object is moving
 - ☐ B. Zero, because the object is initially moving
 - ☐ C. Positive, because work is always positive
 - ☒ D. Negative, because the force opposes the motion

Q.58 What best describes an ocean current?

- Ans
- ☐ A. Collection of floating plants in the ocean
 - ☒ B. A large mass of moving water in the ocean
 - ☐ C. A stationary area in the ocean region
 - ☐ D. A region with no salt in the ocean

Q.59 A train moves 60 km at 30 km/h, halts for 1h, and then covers 90 km at 45 km/h. What is the average speed over the entire journey?

- Ans
- ☐ A. 20 km/h
 - ☐ B. 40 km/h
 - ☒ C. 30 km/h
 - ☐ D. 50 km/h

Q.60 Which of the following statements best describes a characteristic shared by all organic compounds?

- Ans
- ☒ A. They contain carbon atoms bonded to other elements.
 - ☐ B. They all contain nitrogen atoms.
 - ☐ C. They exist only as gases at room temperature.
 - ☐ D. They are always soluble in water.

Q.61 A straight conductor carrying current is placed in a uniform magnetic field. If the direction of current is reversed while keeping the field unchanged, how will the direction of force on the conductor change?

- Ans
- ☐ A. The force acts in the opposite direction, but its magnitude becomes greater.
 - ☐ B. The force acts in the same direction, but its magnitude decreases.
 - ☒ C. The force acts in the opposite direction, while its magnitude remains unchanged.
 - ☐ D. The force becomes zero because the current changes its direction.

Q.62 How do the respiratory and circulatory systems work together during exercise?

- Ans
- ☒ A. Blood carries oxygen from lungs to muscles
 - ☐ B. The heart absorbs oxygen from the lungs
 - ☐ C. Muscles send oxygen back to the lungs
 - ☐ D. Carbon dioxide is used for energy production

Q.63 If a 3 A current is flowing per minute through a cross – section of a co

- Ans
- ☐ A. 90.0 C
 - ☒ B. 180.0 C
 - ☐ C. 60.0 C
 - ☐ D. 3.0 C

Q.64 Which of the following methods is NOT applied for disposal of nonbiodegradable substances?

- Ans
- ☐ A. Recycle
 - ☐ B. Reuse
 - ☒ C. Making Compost
 - ☐ D. Landfilling

Q.65 A student designs an experiment to transmit sound from one room to another using various materials as a barrier. Which material is likely to block sound propagation most effectively?

- Ans
- ☐ A. A thin wooden board placed between the rooms
 - ☒ B. A thick rubber sheet placed between the rooms
 - ☐ C. A piece of loose cotton fabric hung between the rooms
 - ☐ D. A plastic sheet stretched tightly between the rooms

Q.66 If two objects have velocity-time graphs that are both straight lines parallel to the time axis but at different heights, what does this indicate about the two objects?

- Ans
- ☒ A. Both have uniform velocities, but different magnitudes
 - ☐ B. Both are moving with the same velocity
 - ☐ C. Both are at rest throughout the interval
 - ☐ D. Both are accelerating at the same rate

Q.67 In which scenario does an object have zero gravitational potential energy with respect to a given reference point?

- Ans
- ☐ A. When the object is above the reference point
 - ☐ B. When the object is below the reference point
 - ☒ C. When the object is at the same level as the reference point
 - ☐ D. When the object is moving horizontally above the reference point

Q.68 Which of these examples best illustrates that work is not done according to physics?

- Ans
- ☐ A. A student lifts a book onto a shelf
 - ☒ B. A person holds a bag without moving it
 - ☐ C. A child pushes a box across the floor
 - ☐ D. A person pulls a cart along a road

Q.69 Which part of the neuron transmits the message to the other cells?

- Ans
- ☐ A. Dendrites
 - ☒ B. Axon
 - ☐ C. Nucleus
 - ☐ D. Cell body

Q.70 A person with hypermetropia (farsightedness) is prescribed a lens to correct their vision. Which type of lens and action is used in their spectacles?

- Ans
- ☐ A. Convex lens; diverging action
 - ☒ B. Convex lens; converging action
 - ☐ C. Concave lens; diverging action
 - ☐ D. Concave lens; converging action

Q.71 What is the first step in balancing a chemical equation?

- Ans
- ☐ A. Mentioning physical states of substances
 - ☐ B. Equalising charges on both sides
 - ☒ C. Writing the correct skeletal equation
 - ☐ D. Adding coefficients to hydrogen first

Q.72 A sample of ammonia (NH₃) contains 12 molecules. How many nitrogen atoms are present in the sample?

- Ans
- ☐ A. 24 nitrogen atoms
 - ☐ B. 36 nitrogen atoms
 - ☐ C. 3 nitrogen atoms
 - ☒ D. 12 nitrogen atoms

Q.73 The seeds of gymnosperms are considered 'naked' as:

- Ans
- ☐ A. Their seeds are enclosed within fleshy fruits.
 - ☐ B. Their seeds form only after insect pollination.
 - ☒ C. Their seeds remain exposed on cone scales.
 - ☐ D. Their seeds develop inside fruits after fertilisation.

Q.74 Which of the following is the correct reason for using a convex mirror as a security mirror in malls?

- Ans
- ☐ A. It converges the light falling on it.
 - ☒ B. It forms an erect and diminished image.
 - ☐ C. It forms an inverted image.
 - ☐ D. It forms a real and enlarged image.

Q.75 Why do planetary winds in the Northern Hemisphere consistently curve to the right of their direction of motion?

- Ans
- ☐ A. Earth's revolution
 - ☒ B. Earth's rotation
 - ☐ C. Gravitational pull
 - ☐ D. Atmospheric pressure

Q.76 Which organelle in a plant cell is mainly responsible for photosynthesis?

- Ans
- ☐ A. Nucleus
 - ☐ B. Mitochondria
 - ☒ C. Chloroplast
 - ☐ D. Ribosome

Q.77 Which of the following is the primary reason for recommending breastfeeding immediately after birth?

- Ans
- ☐ A. It increases hair growth in the baby
 - ☒ B. It provides antibodies and essential nutrients
 - ☐ C. It improves the baby's vision
 - ☐ D. It changes the baby's blood type

Q.78 Which sequence correctly matches each bacterium to its primary role in the nitrogen cycle: nitrogen fixation, nitrification and denitrification?

- Ans
- ☐ A. Azotobacter - denitrification, Nitrobacter - nitrogen fixation, Pseudomonas - nitrification
 - ☐ B. Azotobacter - nitrification, Nitrobacter - denitrification, Pseudomonas - nitrogen fixation
 - ☒ C. Azotobacter - nitrogen fixation, Nitrobacter - nitrification, Pseudomonas - denitrification
 - ☐ D. Azotobacter - nitrogen fixation, Nitrobacter - denitrification, Pseudomonas - nitrification

Q.79 What is the correct chemical formula for calcium phosphate, given that calcium has a valency of 2 and phosphate has a valency of 3?

- Ans
- ☒ A. $\text{Ca}_3(\text{PO}_4)_2$
 - ☐ B. $\text{Ca}_2(\text{PO}_4)_2$
 - ☐ C. $\text{Ca}_2(\text{PO}_4)_3$
 - ☐ D. $\text{Ca}(\text{PO}_4)_3$

Q.80 Which of the following is most likely to dissolve completely in water at room temperature?

- Ans
- ☐ A. Oil
 - ☒ B. Sugar
 - ☐ C. Sand
 - ☐ D. Rubber

Q.81 Which statement explains a key difference between mitosis and meiosis in the context of cell division?

- Ans
- ☐ A. Both mitosis and meiosis produce cells with identical genetic material.
 - ☐ B. Both mitosis and meiosis reduce the chromosome number by half.
 - ☒ C. Mitosis occurs in somatic cell, while meiosis occurs in germ cells.
 - ☐ D. Both mitosis and meiosis create four new cells from one parent cell.

Q.82 In a distance-time graph, if the curve is NOT a straight line, then it represents ____.

- Ans
- ☒ A. non-uniform speed
 - ☐ B. object at rest
 - ☐ C. motion with zero acceleration
 - ☐ D. uniform speed

Q.83 In the electrolytic refining of copper, which material is used as the cathode?

- Ans
- ☐ A. Carbon rod
 - ☒ B. Pure copper
 - ☐ C. Impure copper
 - ☐ D. Silver rod

Q.84 A block is at rest on a frictionless surface. When a constant force is applied for a certain period, the block moves with a final velocity. What inference about the block's motion is supported by Newton's laws?

- Ans
- ☐ A. The block's velocity fluctuates randomly during force application
 - ☐ B. The block's velocity remains unchanged regardless of the force
 - ☒ C. The block's velocity increases uniformly as long as the force is applied
 - ☐ D. The force only alters the block's direction but not its speed

Q.85 Which of the following explains why offsprings produced through sexual reproduction in animals are usually not identical to their parents?

- Ans
- ☒ A. It combines genetic material from two distinct parents
 - ☐ B. It always produces genetically identical gametes
 - ☐ C. It involves only one parent and no genetic mixing
 - ☐ D. It passes on traits from only the dominant parent

Q.86 After assigning an organism to a Kingdom, which is the next taxonomic rank in the hierarchical classification system?

- Ans
- ☒ A. Assign the organism to a Phylum based on broader shared traits
 - ☐ B. Go straight to determining the Family it belongs to
 - ☐ C. Place the organism directly into a Class using specific characteristics
 - ☐ D. Identify the Genus before considering other categories

Q.87 A student adds lemon juice to blue litmus paper and notices that it turns red. Based on the pH scale, what can be inferred about the pH of lemon juice?

- Ans
- ☐ A. Lemon juice does not affect the pH scale
 - ☐ B. Lemon juice has a pH greater than 7
 - ☒ C. Lemon juice has a pH less than 7
 - ☐ D. Lemon juice has a pH of exactly 7

Q.88 Which of the following best explains what happens when an acid is dissolved in water?

- Ans
- ☒ A. It releases hydrogen ions (H⁺) into the solution.
 - ☐ B. It forms salt ions directly in water.
 - ☐ C. It produces metal ions in the solution.
 - ☐ D. It forms hydroxide ions (OH⁻) in the solution.

Q.89 Which method is most suitable for separating a mixture of ethanol and water in a laboratory setup?

- Ans
- ☐ A. Chromatography
 - ☐ B. Filtration
 - ☐ C. Evaporation
 - ☒ D. Simple distillation

Q.90 A student is given a mixture of sand, salt, and water. Which sequence of steps would best separate all components to obtain pure sand and pure salt?

- Ans
- ☒ A. Filter the mixture, then evaporate the water from the filtrate
 - ☐ B. Use a magnet, then cool the mixture
 - ☐ C. Cool the mixture, then filter the solution
 - ☐ D. Heat the mixture and decant the liquid

Section : General Awareness

Q.91 The CG Semi Outsourced Semiconductor Assembly and Test (OSAT) facility, inaugurated by the Prime Minister of India in July 2026, is located in which city of Gujarat?

- Ans
- ☐ A. Surat
 - ☐ B. Dholera
 - ☐ C. Gandhinagar
 - ☒ D. Sanand

Q.92 In May 2026, N. Rangasamy was sworn in as the Chief Minister of Puducherry for which consecutive term?

- Ans**
- ☐ A. Third term
 - ☒ B. Fifth term
 - ☐ C. Fourth term
 - ☐ D. Sixth term

Q.93 Which organisation successfully conducted three consecutive flight tests on June 10 and 11, 2026, demonstrating a multi-layered defence capability against long-range ballistic missiles as well as a medium-range anti-ship capability?

- Ans**
- ☒ A. Defence Research and Development Organisation
 - ☐ B. Indian Space Research Organisation
 - ☐ C. Bharat Dynamics Limited
 - ☐ D. Hindustan Aeronautics Limited

Q.94 The Ministry of Education, in collaboration with IIT Kanpur, developed a free digital learning platform that provides video lectures, mock tests, study materials, and previous years' question papers for preparation of major competitive examinations such as JEE and NEET. What is the name of this platform?

- Ans**
- ☐ A. UMANG App
 - ☐ B. SWAYAM App
 - ☒ C. SATHEE App
 - ☐ D. DIKSHA App

Q.95 Who was appointed as a Full-Time Member of NITI Aayog in April 2026, with Prime Minister Modi calling his personal journey "very inspiring"?

- Ans**
- ☐ A. Dr. Ashok Lahiri
 - ☒ B. Dr. Gobardhan Das
 - ☐ C. Prof. Abhay Karandikar
 - ☐ D. Dr. Rajiv Gauba

Q.96 The Khelo India Mission, announced in the Union Budget 2026–27, places special emphasis on the systematic development of which of the following?

- Ans**
- ☐ A. Adventure tourism and eco-sports
 - ☐ B. International sports event management only
 - ☐ C. Film production and sports broadcasting
 - ☒ D. Sports talent, coaches, and support staff

Q.97 What was the official theme of the International Day of Persons with Disabilities (IDPD) observed by the United Nations on 3 December 2025?

- Ans**
- ☐ A. Ensuring equal access to technology for persons with disabilities
 - ☐ B. Building inclusive education for persons with disabilities worldwide
 - ☒ C. Fostering disability-inclusive societies for advancing social progress
 - ☐ D. Leadership and Participation of Persons with Disabilities toward an Inclusive World

Q.98 In June 2026, the Central Government extended the tenure of which two of India's oldest inter-state water dispute tribunals by one year?

- Ans**
- ☐ A. Cauvery Water Disputes Tribunal & Mahadayi Tribunal
 - ☒ B. Ravi and Beas Tribunal & Krishna Water Disputes Tribunal
 - ☐ C. Godavari Water Disputes Tribunal & Narmada Tribunal
 - ☐ D. Mahanadi Water Disputes Tribunal & Vansadhara Tribunal

Q.99 Which bank was penalized by the Reserve Bank of India in March 2026 with a ₹31.80 lakh fine for not complying with rules related to inoperative accounts and unclaimed deposits?

Ans  A. HSBC India

 B. State Bank of India

 C. HDFC Bank

 D. ICICI Bank

Q.100 Published by Rupa Publications in March 2026, who wrote the autobiography Triumph of the Indian Republic: My Life, My Struggles?

Ans  A. Dr. A.P.J. Abdul Kalam

 B. Ram Nath Kovind

 C. Pratibha Devisingh Patil

 D. Pranab Mukherjee



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CEN 02/2026 - Technician Grade I Signal and Technician Grade III



Test Date	07/10/2026
Test Time	9:00 AM - 10:30 AM
Subject	RRB Technician Grade III

*** Note**

Correct Answer will carry 1 mark per Question.

Incorrect Answer will carry 1/3 Negative mark per Question.

1. Options shown in green color with a tick icon are correct.

2. Chosen option on the right of the question indicates the option selected by the candidate.

Section : Mathematics

Q.1 If $\frac{x}{y} = \frac{b+3}{b-3}$, then find the value of $\frac{x^2 + y^2}{x^2 - y^2}$.

- Ans
- ☒ A. $\frac{6b}{b^2 + 9}$
- ☒ B. $\frac{12b}{b^2 + 9}$
- ☒ C. $\frac{b^2 + 9}{6b}$
- ☒ D. $\frac{b^2 + 9}{12b}$

Q.2 Pipe M can fill a tank in 6 hours and Pipe N can fill the tank in 12 hours. If both are opened together, what fraction of the tank will be filled in 3.5 hours?

- Ans
- ☒ A. $\frac{1}{6}$
- ☒ B. $\frac{3}{4}$
- ☒ C. $\frac{1}{8}$
- ☒ D. $\frac{7}{8}$

Q.3 A tank has two inlet pipes, C and D, and one outlet pipe E. C fills the tank in 10 hours, D in 15 hours, and E empties it in 30 hours. If all pipes are opened together, how long will it take to fill the tank completely?

- Ans
- ☒ A. 8.5 hours
- ☒ B. 7.5 hours
- ☒ C. 9.5 hours
- ☒ D. 5.5 hours

Q.4 A data set of 15 observations is arranged in ascending order as follows: 9, 11, 13, 15, 17, 19, 21, 23, z, 27, 29, 31, 33, 35, 37. 23 is the unique mode. If z is an integer, what is the value of z?

- Ans
- ☒ A. 23
- ☒ B. 27
- ☒ C. 25
- ☒ D. 21

Q.5 The ratio of the number of boys to girls in a school of 102 students is 9:8. How many more girls should be admitted to make the ratio of boys to girls 1:2?

- Ans** ☒ A. 60
☐ B. 48
☐ C. 54
☐ D. 62

Q.6 Three partners invest in an AI analytics firm in the ratio 8 : 11 : 13. After 6 months, the second partner increases his investment by 25%, while the first partner reduces his investment by 20%. If the total profit after 12 months is ₹9,24,000, then what is the share of the third partner (in ₹, rounded off to the nearest integer)?

- Ans** ☐ A. 3,52,000
☒ B. 3,68,749
☐ C. 3,90,125
☐ D. 3,36,000

Q.7 By selling an article for ₹113, a man loses 30%. At what price (in ₹) should he sell it to gain 40%?

- Ans** ☒ A. ₹226
☐ B. ₹236
☐ C. ₹216
☐ D. ₹246

Q.8 If 20% of k is 10 less than 1800% of 10, then k is:

- Ans** ☐ A. 810
☒ B. 850
☐ C. 830
☐ D. 890

Q.9 On a circular path of 2655 m, Afiya and Sushmita start walking from the same point but in the opposite directions at the speed of 4.6 m/s and X m/sec, respectively, they will meet for the first time after 177 seconds. Find the value of X .

- Ans** ☐ A. 10.7
☐ B. 17.9
☐ C. 18.3
☒ D. 10.4

Q.10 The sum of the present ages of Nick and Stephen is 56 years. Four years ago, Stephen's age was half of Nick's age at that time. What is Nick's present age (in years)?

- Ans** ☐ A. 42
☐ B. 26
☒ C. 36
☐ D. 31

Q.11 Let p be a prime number greater than 3. Which of the following expressions is always divisible by 24 and necessarily by 48?

- Ans** ☐ A. $p^2 - 1$
☐ B. $p^2 - p$
☐ C. $p^2 + 1$
☒ D. $p^4 - 1$

Q.12

If $(\cos\theta + \sin\theta) : (\cos\theta - \sin\theta) = (\sqrt{3} + 1) : (\sqrt{3} - 1)$, $0^\circ < \theta < 90^\circ$

Ans

- ☐ A. $\frac{\sqrt{3}}{2}$
☒ B. $\sqrt{3}$
☐ C. 1
☐ D. $\frac{\sqrt{3}}{3}$

Q.13

The marks of 9 students are:

16, 20, 24, 27, 31, 36, 39, 42, 48.

If the marks of the student who scored 48 are replaced by 52, what is the value of the new median?

Ans

- ☐ A. 30
☐ B. 28
☒ C. 31
☐ D. 29

Q.14

The average number of cars sold per day by a dealer during the month of March, excluding Saturdays and Sundays, is 168. The average number of cars sold per day on Sundays is 119. If the first Saturday falls on 3rd March and the average number of cars sold per day during the entire month is 177, what is the average number of cars sold per day on Saturdays?

Ans

- ☐ A. 262
☐ B. 260
☒ C. 263
☐ D. 261

Q.15

In a quadrilateral PQRS, $\angle P = (4x + 8)^\circ$, $\angle Q = (3x + 2)^\circ$, $\angle R = 74^\circ$

The shortest angle of the quadrilateral is

Ans

- ☐ A. 25°
☒ B. 30°
☐ C. 40°
☐ D. 35°

Q.16

An article is sold at a 20% profit. If its selling price is reduced by ₹40, the seller incurs a 10% loss. Find the cost price (rounded off to 2 decimal places) of the article.

Ans

- ☒ A. ₹133.33
☐ B. ₹124.63
☐ C. ₹80.44
☐ D. ₹100.24

Q.17

If a square has a side of $(11x - 9)$ cm, then the area of the square (in cm^2) is:

Ans

- ☒ A. $121x^2 - 198x + 81$
☐ B. $121x^2 + 99x - 81$
☐ C. $121x^2 - 99x - 81$
☐ D. $121x^2 + 99x + 81$

Q.18 A man walks at $\frac{5}{6}$ of his usual speed and reaches his destination 10 minutes late. What is the usual time (in minutes) taken?

- Ans ☒ A. 50
☐ B. 40
☐ C. 60
☐ D. 70

Q.19 From an external point P, two tangents PA and PB are drawn to a circle with center O. A secant passing through P cuts the circle at points C and D such that PC = 4 cm and PD = 8 cm. If the radius of the circle is 6 cm, find the length of the tangent PA.

- Ans ☐ A. $2\sqrt{2}$ cm
☐ B. $\sqrt{2}$ cm
☐ C. $4\sqrt{3}$ cm
☒ D. $4\sqrt{2}$ cm

Q.20 Ruchi invested a certain amount at a compound interest rate of 32% per annum, compounded semi-annually, for a duration of 1 year and 6 months. If the total amount received by Ruchi at the end of the period was ₹48,778, then what was the initial investment (in ₹)?

- Ans ☐ A. 30,000
☐ B. 31,000
☐ C. 30,250
☒ D. 31,250

Q.21 A shopkeeper offers two successive discounts of 15% and y% on the marked price of an article. If the final selling price is 68% of the marked price, what is the value of y?

- Ans ☐ A. 25
☐ B. 10
☒ C. 20
☐ D. 15

Q.22 The volume of a cylinder is 3080 cm^3 and the radius of its base is 7 cm. What is the curved surface area of the cylinder?

(Use $\pi = \frac{22}{7}$)

- Ans ☐ A. 860 cm^2
☐ B. 900 cm^2
☐ C. 840 cm^2
☒ D. 880 cm^2

Q.23 A principal is invested at a certain annual rate of interest, compounded annually, for 3 years. The ratio (Compound Interest - Simple Interest) to Simple Interest is 7:12. What is the annual rate of interest?

- Ans ☐ A. 40%
☐ B. 30%
☒ C. 50%
☐ D. 60%

Q.24 Find the least value of $(4K^2 - 3)$ for which the six digits number 8768K

- Ans ☐ A. 13
☐ B. 33
☒ C. 1
☐ D. 24

Q.25 A man has invested ₹57500 at a rate of 12% per annum simple interest for 3 years. Find the amount (in ₹) that he will receive after 3 years.

- Ans** ☒ A. 78200
☐ B. 21700
☐ C. 20700
☐ D. 79200

Section : General Intelligence and Reasoning

Q.26 N is the brother of C. Q is the sister of Z. T is the son of Z. Z is the wife of C. How is N related to Q?

- Ans** ☐ A. Brother
☐ B. Husband's brother
☐ C. Sister's husband
☒ D. Sister's husband's brother

Q.27 23 is related to 138 following a certain logic. Following the same logic, 16 is related to 96. To which of the following is 32 related, following the same logic?
(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.)

- Ans** ☐ A. 122
☒ B. 192
☐ C. 154
☐ D. 138

Q.28 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 letter-cluster 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 pair.)

- Ans** ☐ A. ML–HG
☐ B. BA–WV
☒ C. HG–BD
☐ D. KJ–FE

Q.29 Refer to the following letter series and answer the question that follows. Counting to be done from left to right only.

(Left) W O N F H G U K M T G B E I C X D F H G U K T V U A (Right)

How many such consonants are there, each of which is immediately preceded by a vowel and also immediately followed by a vowel?

- Ans** ☐ A. Three
☐ B. One
☐ C. Two
☒ D. None

Q.30 What should come in place of '?' in the given series?
29, 32, 38, 47, 59 ?

- Ans** ☐ A. 76
☒ B. 74
☐ C. 73
☐ D. 75

Q.31 In this question, a group of number/symbol is coded using letter codes as per the codes given below and the conditions which follow. The correct combination of codes following the conditions is your answer. If none of the conditions follow, then codes for the respective Number/Symbol are to be followed directly as given in the table.

Number/symbol 3 @ 8 # 1 % 6 & 9 \$ 2 + 5 7

Code KF AMHP BT WRDULQ

Conditions –

(i) If the first, third and fifth elements are all odd numbers, code the third element as ©.

(ii) If the second and fourth elements are even numbers, the fourth element is to be coded as the code of the second element.

(iii) If the first element is a symbol, code the last element as ©.

What is the code for the following group of numbers?

58723

Ans ☒ A. LA©AK

☐ B. LAQDK

☐ C. LA©DK

☐ D. LAQD©

Q.32 What will come in the place of '?' in the following equation, if '+' and '÷' are interchanged and '-' and 'x' are interchanged?

$312 + 6 \times 5 - 32 \div 300 = ?$

Ans ☐ A. 179

☐ B. 180

☐ C. 186

☒ D. 192

Q.33 Each consonant in the word MEDICAL is changed to the letter immediately preceding it in the English alphabetical order, and the vowel remains the same. If all the letters thus formed are rearranged in the English alphabetical order, then which of the following letters will be fifth from the right?

Ans ☐ A. I

☐ B. E

☐ C. B

☒ D. C

Q.34 In a certain code language, 'WACK' is coded as '3589' and 'CAKE' is coded as '5138'. What is the code for 'E' in the given code language?

Ans ☒ A. 1

☐ B. 5

☐ C. 3

☐ D. 8

Q.35 A, B, C, D, E and F live on six different floors of the same building. The lowermost floor in the building is numbered 1, the floor above it, number 2 and so on till the topmost floor is numbered 6.

E lives on an even numbered floor but not 6. The sum of floors on which F and E live is 7.

C lives immediately above D. The sum of floors on which E and A live is 3.

What is the sum of floors on which D and F live?

Ans ☐ A. 6

☐ B. 5

☐ C. 7

☒ D. 8

Q.36 In this question, a question is followed by two statements numbered (I) and (II). You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and decide the appropriate answer.
Among 5 poles, B, E, G, O and P, each having a different height, which pole is the shortest?

(I) P is taller than only two poles. O is taller than P but shorter than G.

(II) B is taller than E.

- Ans**
- ☒ A. Both statements I and II together are NOT sufficient to answer the question
 - ☒ B. Data in statement II alone is sufficient to answer the question while data in statement I is not
 - ☒ C. Both statements I and II together (and not statement I alone or statement II alone) are sufficient to answer the question
 - ☒ D. Data in statement I alone is sufficient to answer the question while data in statement II is not

Q.37 Select the pair which follows the same pattern as that followed by the two pairs given below. Both pairs follow the same pattern.

KON – PTS

GKJ – LPO

- Ans**
- ☒ A. YBZ – DHG
 - ☒ B. YBZ – CGF
 - ☒ C. YCB – DHG
 - ☒ D. YCB – CHF

Q.38 Refer to the following letter series and answer the question. Counting to be done from left to right only.

(Left) G V C T H Y B E R K H V E V B M P U F B J I O X (Right)

How many such vowels are there each of which is immediately preceded by a consonant and also immediately followed by a vowel?

- Ans**
- ☒ A. None
 - ☒ B. Two
 - ☒ C. One
 - ☒ D. Three

Q.39 The position(s) of how many letters will remain unchanged if each letter in the word MAJORITY is arranged in the English alphabetical order?

- Ans**
- ☒ A. 1
 - ☒ B. 2
 - ☒ C. 3
 - ☒ D. 4

Q.40 A, B, C, D, E and F live on six different floors of the same building. The lowermost floor in the building is numbered 1, the floor above it, number 2 and so on till the topmost floor is numbered 6.

F lives on an even numbered floor but not 6. The sum of floors on which D and F live is 7.

A lives immediately above E. The sum of floors on which F and C live is 3.

How many people live between C and E?

- Ans**
- ☒ A. 1
 - ☒ B. 3
 - ☒ C. 4
 - ☒ D. 2

Q.41 In a certain code language, 'nail lamp tea' is coded as 'dy xv tn' and 'tea hall virus' is coded as 'xv tl yk'. How is 'tea' coded in the given language?

- Ans**
- ☒ A. tn
 - ☒ B. tl
 - ☒ C. xv
 - ☒ D. dy

Q.42 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?
28 A 36 B 27 C 32 D 44 = ?

- Ans
- ☒ A. 5
 - ☒ B. 9
 - ☒ C. 8
 - ☒ D. 7

Q.43 Ghr starts from Point A and drives 7 km towards West. He then takes a left turn and drives 4 km; and again turns right and drives 3 km. He then takes a right turn and drives 7 km. He takes a final right turn, drives 10 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-degree turns only unless specified.)

- Ans
- ☒ A. 5 km to the North
 - ☒ B. 6 km to the West
 - ☒ C. 3 km to the South
 - ☒ D. 2 km to the East

Q.44 What should come in place of '?' in the given series?

32 16 48 24 72 ?

- Ans
- ☒ A. 22
 - ☒ B. 46
 - ☒ C. 36
 - ☒ D. 16

Q.45 What should come in place of the question mark (?) in the given series based on the English alphabetical order?

DGY HKC LOG PSK ?

- Ans
- ☒ A. TOW
 - ☒ B. TWO
 - ☒ C. TER
 - ☒ D. TWE

Q.46 If '+' means '-', '-' means '÷', '×' means '+', '÷' means '×', then what will come in place of the question mark (?) in the following equation?

18 + 8 - 4 ÷ 2 = ?

- Ans
- ☒ A. 12
 - ☒ B. 10
 - ☒ C. 14
 - ☒ D. 16

Q.47 Select the pair which follows the same pattern as that followed by the two pairs given below. Both pairs follow the same pattern.

BDZ-ACY
RTP-QSO

- Ans
- ☒ A. UVQ-SUQ
 - ☒ B. UWS-SVQ
 - ☒ C. UWS-TRV
 - ☒ D. UVQ-TRV

Q.48 Based on the English alphabetical order, three of the following four are alike in a certain way and thus form a group. Which is the one that 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)

- Ans**
- ☐ A. LNR
 - ☐ B. JLP
 - ☐ C. TVZ
 - ☒ D. NPV

Q.49 Seven people, H, L, J, D, E, V and R, are sitting in a row, facing north. Only five people sit to the right of H. Only one person sits between L and H. R is the immediate neighbour of J and L. D sits to the right of V but left of L. How many people sit between E and D?

- Ans**
- ☐ A. Four
 - ☐ B. Two
 - ☒ C. Three
 - ☐ D. One

Q.50 A question is followed by two statements numbered (I) and (II). You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and decide the appropriate answer.

Question:

A, B, C, D and E are sitting around a circular table, facing the centre. Who sits second to the right of A?

Statements:

(I) C sits to the immediate left of E. D sits to the immediate right of A.

(II) D is the immediate neighbour of A and B. E sits second to the left of D.

- Ans**
- ☒ A. Data in statements I and II together are sufficient to answer the question.
 - ☐ B. Data in statements I and II together are NOT sufficient to answer the question.
 - ☐ C. Data in statement II alone is sufficient to answer the question while data in statement I is not.
 - ☐ D. Data in statement I alone is sufficient to answer the question while data in statement II is not.

Section : General Science

Q.51 A student on a camping trip notices that the Sun is visible to him about 2 minutes after the actual sunset. Which concept best explains this observation?

- Ans**
- ☐ A. The Moon's reflection causes the delayed sunset.
 - ☐ B. The apparent shape of the Sun causes the delayed sunset.
 - ☐ C. Scattering of sunlight causes the delayed sunset.
 - ☒ D. The atmospheric refraction causes the delayed sunset.

Q.52 Which of the following nutrients is strictly required by the thyroid gland to synthesize the hormone thyroxine?

- Ans**
- ☐ A. Calcium
 - ☒ B. Iodine
 - ☐ C. Sodium
 - ☐ D. Iron

Q.53 _____ vascular tissue in plants contains specialised cells called sieve tube elements, and _____ is their primary function.

- Ans**
- ☐ A. Xylem; transport of water and minerals
 - ☐ B. Xylem; transport of organic nutrients
 - ☒ C. Phloem; transport of food through translocation
 - ☐ D. Phloem; transport of oxygen to leaves

Q.54 A wildlife photographer uses a camera with a convex lens to capture an image of a rare bird perched on a branch. The bird is positioned further from the lens than twice its focal length, but the photographer wants the resulting image to be the same size as the real bird. Which lens adjustment would most effectively allow the photographer to achieve this goal, based on ray diagram principles?

- Ans**
- ☒ A. Move the lens closer so that the bird is between the focal length and twice the focal length
 - ☒ B. Move the lens so the bird is exactly at twice the focal length from the lens
 - ☒ C. Flip the lens and leave the bird at its original position
 - ☒ D. Move the lens farther so the bird is beyond twice the focal length

Q.55 Which particle does NOT contribute significantly to the atomic mass of an atom?

- Ans**
- ☒ A. Electron
 - ☒ B. Proton Neutron and electron contribute equally
 - ☒ C. Neutron
 - ☒ D. Proton

Q.56 In designing an experiment to verify Ohm's Law, a student uses a resistor, an ammeter, and a voltmeter. Which step is most essential to ensure that the data support Ohm's Law for the resistor?

- Ans**
- ☒ A. Vary the applied voltage and record the resulting current at each step
 - ☒ B. Replace the resistor with different materials during measurement
 - ☒ C. Measure only the power dissipated in the resistor at a fixed voltage
 - ☒ D. Keep the voltage constant while measuring the current

Q.57 Which of the following statements explains the way biological magnification impacts organisms at higher trophic levels in a food chain?

- Ans**
- ☒ A. Toxic substances become more concentrated as they move up the food chain.
 - ☒ B. Energy is lost as heat, reducing toxin concentration at higher levels.
 - ☒ C. Toxic substances break down faster at higher trophic levels.
 - ☒ D. The amount of toxic substances decreases at each trophic level.

Q.58 In a solar-powered calculator, which sequence best represents the conversion of energy forms from sunlight to calculation display?

- Ans**
- ☒ A. Chemical energy to mechanical energy to electrical energy
 - ☒ B. Thermal energy to sound energy to light energy
 - ☒ C. Light energy to electrical energy to mechanical energy
 - ☒ D. Electrical energy to thermal energy to light energy

Q.59 A bus moves with a constant speed, represented by a straight line on a distance-time graph that rises from 0 m at 0 s to 90 m at 15 s. What is the speed of the bus?

- Ans**
- ☒ A. 9 m/s
 - ☒ B. 6 m/s
 - ☒ C. 12 m/s
 - ☒ D. 4 m/s

Q.60 Why does incomplete combustion of hydrocarbons reduce energy efficiency?

- Ans**
- ☒ A. Less energy is released per mole of fuel
 - ☒ B. Only water is produced as product
 - ☒ C. More carbon dioxide is formed
 - ☒ D. More energy is released per mole of fuel

Q.61 Which of the following practices should be avoided to maintain maternal health during pregnancy?

- Ans**
- ☒ A. Taking prescribed supplements
 - ☒ B. Consuming alcohol regularly
 - ☒ C. Attending antenatal classes
 - ☒ D. Getting enough sleep

Q.62 While analyzing the dispersion of white light through a glass prism, a student wonders why the colors appear in a specific order from top to bottom on the screen. What is the main reason for this observed sequence?

- Ans**
- ☒ A. The colors arrange naturally due to their energy levels
 - ☒ B. All colors are deviated by the same angle but emerge in sequence due to glass thickness
 - ☒ C. Different wavelengths of light bend at different angles due to varying refractive indices
 - ☒ D. The glass prism only allows specific colors to pass through

Q.63 Which of the following is an example of a physical change?

- Ans**
- ☒ A. Melting of ice
 - ☒ B. Rusting of iron
 - ☒ C. Cooking of rice
 - ☒ D. Burning of paper

Q.64 What does the amplitude of a sound wave primarily affect when heard by a human?

- Ans**
- ☒ A. Timbre of the sound
 - ☒ B. Pitch of the sound
 - ☒ C. Loudness of the sound
 - ☒ D. Quality of the sound

Q.65 The atomic number of an element 'X' is 12, the element will show a valency of ____:

- Ans**
- ☒ A. + 6
 - ☒ B. - 6
 - ☒ C. + 2
 - ☒ D. - 2

Q.66 In designing a shaving mirror using a concave mirror, where should the face be placed to see a clear, upright, and larger image?

- Ans**
- ☒ A. between the pole and the focus
 - ☒ B. at the focus
 - ☒ C. at the center of curvature
 - ☒ D. beyond the center of curvature

Q.67 Which of the following is an example of a compound with a ring structure?

- Ans**
- ☒ A. Methane
 - ☒ B. Cyclohexane
 - ☒ C. Propane
 - ☒ D. Butane

Q.68 Which process allows animals to obtain the nitrogen necessary for building proteins in their bodies?

- Ans**
- ☒ A. Drinking water alone is sufficient for protein synthesis
 - ☒ B. Consuming plant or animal matter containing nitrogen compounds
 - ☒ C. Directly absorbing nitrogen gas from the atmosphere
 - ☒ D. Converting atmospheric nitrogen into ammonia inside their cells

Q.69 The biological classification hierarchy is often compared to a house address system as:

- Ans**
- ☐ A. Classification is used for finding locations, not for identifying organisms.
 - ☐ B. Scientists use classification mainly for memorizing organism names.
 - ☒ C. Both allow for accurate and specific identification within a large set.
 - ☐ D. Classification uses numbers and letters just like house addresses.

Q.70 Which of the following combinations best describes the structure and function of muscular tissue in animals?

- Ans**
- ☐ A. Muscular tissue is made of branched cells and helps in transmitting signals
 - ☐ B. Muscular tissue is made of round cells and helps in storing fat
 - ☒ C. Muscular tissue is made of elongated cells and helps in movement of body parts
 - ☐ D. Muscular tissue is made of dense fibers and helps in connecting bones

Q.71 The process of movement of food through phloem is called _____.

- Ans**
- ☐ A. Transpiration
 - ☐ B. Absorption
 - ☒ C. Translocation
 - ☐ D. Diffusion

Q.72 A student observes the pattern formed by iron filings around a straight current-carrying conductor. The arrangement of filings demonstrates a property of magnetic fields. Which feature is illustrated by their pattern?

- Ans**
- ☐ A. Parallel lines along the wire
 - ☒ B. Circular symmetry of lines around the conductor
 - ☐ C. Radial lines from the wire
 - ☐ D. Random clusters at the ends

Q.73 Which pair of atoms is an example of isotopes?

- Ans**
- ☐ A. An atom with 12 protons and 12 neutrons, and one with 11 protons and 13 neutrons.
 - ☐ B. An atom with 11 protons and 12 neutrons, and one with 11 protons and 12 neutrons.
 - ☐ C. An atom with 11 protons and 12 neutrons, and one with 12 protons and 12 neutrons.
 - ☒ D. An atom with 11 protons and 12 neutrons, and one with 11 protons and 13 neutrons.

Q.74 In a neutralisation reaction, the products formed are:

- Ans**
- ☐ A. Base and water
 - ☐ B. Acid and base
 - ☐ C. Acid and salt
 - ☒ D. Salt and water

Q.75 Which method is most suitable for obtaining pure crystals of copper sulfate from its solution?

- Ans**
- ☐ A. Sublimation
 - ☐ B. Filtration
 - ☐ C. Distillation
 - ☒ D. Crystallization

Q.76 Which of the following describes the correct way to write a scientific name by hand using binomial nomenclature?

- Ans**
- ☐ A. Italicize both genus and species names together
 - ☒ B. Underline the genus and species names separately
 - ☐ C. Write both names in lowercase letters
 - ☐ D. Write both genus and species names in capital letters

Q.77 A block moving on a horizontal surface experiences a force of friction of 15 N in the opposite direction. If the displacement of the block is 5 m, how much work is done by the force of friction?

- Ans
- ☐ A. - 7.5 J
 - ☐ B. + 75 J
 - ☒ C. - 75 J
 - ☐ D. + 7.5 J

Q.78 Species is considered a more specific taxonomic category than a family as:

- Ans
- ☐ A. A family contains organisms of only one species.
 - ☐ B. A species contains many families of organisms.
 - ☐ C. A species is a broader category than a family.
 - ☒ D. Organisms in a species are more similar than those in a family.

Q.79 Which feature is necessary for a wave to be classified as longitudinal?

- Ans
- ☐ A. Oscillation of particles is in circular paths
 - ☒ B. Oscillation of particles is in the same direction as wave travel
 - ☐ C. Oscillation of particles is at right angles to wave direction
 - ☐ D. Oscillation of particles is in random directions

Q.80 Which method is best used to separate a mixture of salt and ammonium chloride?

- Ans
- ☒ A. Sublimation
 - ☐ B. Distillation
 - ☐ C. Evaporation
 - ☐ D. Filtration

Q.81 A scientist discovers a unicellular organism that lives in extreme salt and has a rigid layer around its cell membrane. Which feature would most strongly show this layer is a plant-like cell wall?

- Ans
- ☐ A. The outer layer contains peptidoglycan structures
 - ☐ B. The outer layer is made up of chitin molecules
 - ☒ C. The outer layer is composed mainly of cellulose fibers
 - ☐ D. The outer layer shows a double lipid bilayer arrangement

Q.82 A farmer notices that a cereal crop produces very small, light pollen grains in large numbers, and its flowers have long, feathery stigmas. Which of the following is/are the most likely pollinating agent(s)?

- Ans
- ☐ A. Butterflies
 - ☒ B. Wind
 - ☐ C. Birds
 - ☐ D. Water

Q.83 What happens to the magnetic field at the center of a circular coil when the number of turns is increased to n , assuming the current remains the same?

- Ans
- ☐ A. The field becomes weaker
 - ☐ B. The field stays the same
 - ☒ C. The field becomes n times larger
 - ☐ D. The field becomes n^2 times stronger

Q.84 Metals like sodium and aluminium, placed at the top of the activity series, are extracted by:

- Ans
- ☐ A. They occur in native form without extraction
 - ☐ B. Roasting followed by reduction with carbon monoxide
 - ☒ C. Electrolytic reduction of molten salts
 - ☐ D. Heating their oxides with carbon

Q.85 If the acceleration of an object doubles while the mass of the object remains constant, what happens to the force required?

- Ans
- ☐ A. Force remains same
 - ☐ B. Force halves
 - ☐ C. Force quadruples
 - ☒ D. Force doubles

Q.86 How would the water cycle be affected if the condensation process in the atmosphere slowed down significantly?

- Ans
- ☐ A. Evaporation from oceans would increase sharply
 - ☐ B. Groundwater infiltration would increase rapidly
 - ☒ C. Cloud formation would decrease, reducing precipitation
 - ☐ D. Clouds would form more frequently, increasing precipitation

Q.87 Which of the following is an effective method to prevent corrosion?

- Ans
- ☐ A. By exposing the metal to high temperatures only
 - ☐ B. By adding strong acids to the metal surface
 - ☐ C. By dissolving the metal in water
 - ☒ D. By methods like galvanising or painting the metal surface

Q.88 Why does magnesium form an Mg^{2+} ion rather than Mg^+ during ionic bond formation?

- Ans
- ☐ A. Magnesium gains one electron to balance its charge.
 - ☒ B. Magnesium loses two electrons to achieve the stable electron configuration of a noble gas.
 - ☐ C. Magnesium shares two electrons with another atom to become stable.
 - ☐ D. Magnesium does not change its electron configuration during bonding.

Q.89 Which of the following best describes what happens when ethanol undergoes complete combustion in air?

- Ans
- ☐ A. It forms carbon monoxide and water only.
 - ☐ B. It forms carbon and water only.
 - ☐ C. It forms carbon dioxide only.
 - ☒ D. It forms carbon dioxide and water only.

Q.90 A light ray passes from air into glass with an angle of incidence of 45 degrees and an angle of refraction of 30 degrees. What is the closest approximate value of refractive index of glass relative to air, rounded to two decimal places?

- Ans
- ☐ A. 0.68
 - ☐ B. 1.25
 - ☐ C. 1.15
 - ☒ D. 1.41

Section : General Awareness

Q.91 Which of the following locations hosted the India-Egypt Joint Special Forces Exercise, Cyclone - IV, in 2026?

- Ans ☒ A. Anshas, Egypt
☐ B. Jaisalmer, India
☐ C. Abu Dhabi, UAE
☐ D. Pokhran, India

Q.92 Which of the following Ministries launched the 100-day Bal Vivah Mukh Bharat Campaign in December 2025?

- Ans ☐ A. Ministry of Social Justice and Empowerment
☐ B. Ministry of Health and Family Welfare
☐ C. Ministry of Home Affairs
☒ D. Ministry of Women and Child Development

Q.93 Which initiative of the Ministry of Panchayati Raj secured the Gold Award at the National Awards for e-Governance (NAeG) 2026 under the category "Digital Transformation by Use of Data Analytics in Digital Platforms by Central Ministries/States/UTs"?

- Ans ☒ A. Panchayat Advancement Index
☐ B. AuditOnline Platform
☐ C. e-GramSwaraj Portal
☐ D. SVAMITVA Scheme

Q.94 Who wrote the memoir 'The Second Orbit: Belief of a Man... Dreams of 1.4 Billion Hearts', which was released by Air Chief Marshal Amar Preet Singh in June 2026?

- Ans ☐ A. Amar Preet Singh
☐ B. Rakesh Sharma
☒ C. Shubhanshu Shukla
☐ D. Angad Pratap

Q.95 At the inaugural Indian Athletics Awards 2026 by the Athletic Federation of India, Shahnavaz Khan and Pooja were recognised in which category?

- Ans ☐ A. Best Male and Female Athletes of the Year
☐ B. Rising Stars of Indian Athletics
☐ C. Best Junior Male and Female Athletes
☒ D. Best Emerging Male and Female Athletes

Q.96 What action did the Monetary Policy Committee take regarding the repo rate in June 2026?

- Ans ☐ A. They reduced the repo rate by 0.25%
☒ B. They kept the repo rate unchanged at 5.25%
☐ C. They increased the repo rate to 5.5%
☐ D. They set the repo rate at 6.0%

Q.97 Operation HimSetu, conducted by the Indian Army in April 2026, was launched to rescue stranded civilians in which state?

- Ans ☐ A. Arunachal Pradesh
☐ B. Uttarakhand
☒ C. Sikkim
☐ D. Himachal Pradesh

Q.98 In September 2025, PM Modi launched Mukhyamantri Mahila Rojgar Yojana for which of the following states to transfers Rs 7,500 crore to 75 lakh women?

- Ans**
- ☐ A. Uttar Pradesh
 - ☒ B. Bihar
 - ☐ C. Rajasthan
 - ☐ D. Madhya Pradesh

Q.99 In May 2026, which organisation signed a Memorandum of Understanding (MoU) with the Reserve Bank Innovation Hub (RBIH) to strengthen collaboration in combating cyber-enabled financial frauds and curbing mule accounts?

- Ans**
- ☒ A. Indian Cyber Crime Coordination Centre (I4C)
 - ☐ B. National Critical Information Infrastructure Protection Centre (NCIIPC)
 - ☐ C. Indian Computer Emergency Response Team (CERT-In)
 - ☐ D. Cyber Swachhta Kendra (CSK)

Q.100 In June 2026, Defence Minister Rajnath Singh approved a revision in the Delegation of Financial Powers for the Defence Services primarily to achieve which of the following objectives?

- Ans**
- ☐ A. Expansion of overseas defence manufacturing partnerships
 - ☒ B. Faster procurement and greater operational efficiency in the Armed Forces
 - ☐ C. Introduction of a common budget for the three Armed Services
 - ☐ D. Centralisation of all procurement decisions at the Ministry of Defence



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सीईएन ०२/२०२६ - तकनीशियन ग्रेड I सिगनल और तकनीशियन ग्रेड III
CEN 02/2026 - Technician Grade I Signal and Technician Grade III



Test Date	07/10/2026
Test Time	12:45 PM - 2:15 PM
Subject	RRB Technician Grade III

*** Note**

Correct Answer will carry 1 mark per Question.

Incorrect Answer will carry 1/3 Negative mark per Question.

1. Options shown in green color with a tick icon are correct.

2. Chosen option on the right of the question indicates the option selected by the candidate.

Section : Mathematics

Q.1 The sides of similar triangles ΔABC and ΔPQR are in the ratio 6 : 5. If area of ΔABC is equal to 72 cm^2 , what is the area of ΔPQR ?

- Ans**
- ☒ A. 50 cm^2
 - ☐ B. 45 cm^2
 - ☐ C. 65 cm^2
 - ☐ D. 60 cm^2

Q.2 A car travels from city A to city B covering a total distance of 360 km under the following conditions, first 100 km covered at a speed of 50 km/h, next 80 km is covered at a speed of 40 km/h, then the car stops for 30 minutes. After that it covers 90 km distance at a speed of 60 km/h and the remaining distance it covers at a speed of 75 km/h. What is the average speed of the car for the entire journey including stoppage time?

- Ans**
- ☐ A. 56 km/h
 - ☐ B. 53 km/h
 - ☒ C. 50 km/h
 - ☐ D. 58 km/h

Q.3 The 7-digit number 6A9317B is divisible by 3. Find the least possible value of (A + B).

- Ans**
- ☐ A. 4
 - ☐ B. 3
 - ☒ C. 1
 - ☐ D. 0

Q.4 If 20% of k is 10 less than 2400% of 25, then k is:

- Ans**
- ☐ A. 2910
 - ☐ B. 2930
 - ☒ C. 2950
 - ☐ D. 2990

Q.5 Two persons X and Y deposited the same amount ₹P for the same the rate of interest compounded yearly and half yearly for two years and one year, respectively. If the difference of their interests is ₹0.1075P, then find the rate of interest.

- Ans**
- ☐ A. 12%
 - ☐ B. 12.5%
 - ☐ C. 8%
 - ☒ D. 10%

Q.6 Two people of equal efficiency working together can complete a task in 6 hours. How long would it take one person alone to complete the same task?

- Ans**
- ☐ A. 6 hours
 - ☐ B. 3 hours
 - ☒ C. 12 hours
 - ☐ D. 9 hours

Q.7 The average sale of cars by a dealer per day in the month of March, other than on Saturdays and Sundays, is 184. The average sale of cars per day on Sundays is 200. What is the average sale of cars per day on Saturdays, if the first Saturday is on the 3rd of March and average sale of cars per day for the whole month is 193?

- Ans**
- ☐ A. 224
 - ☒ B. 227
 - ☐ C. 223
 - ☐ D. 222

Q.8 Which of the following values of x satisfies the equation $\frac{(128 \div 16) \times x - (7 \times 2)}{7^2 - (8 \times 6) + x^2} = 1$?

- Ans**
- ☐ A. 1
 - ☒ B. 3
 - ☐ C. 0
 - ☐ D. 2

Q.9 What will be the difference between the compound interest (when interest is compounded annually) and the simple interest if ₹52,400 is deposited at 8% rate of interest per annum for 2 years?

- Ans**
- ☐ A. ₹344.55
 - ☐ B. ₹329.25
 - ☒ C. ₹335.36
 - ☐ D. ₹330.86

Q.10 In a college, the students in Science and Commerce faculties were in the ratio of 9 : 7, respectively. If 9 more students joined the Science faculty and 6 students left the Commerce faculty, the ratio of students in the Science and Commerce faculties becomes 12 : 5, respectively. How many students were there in both faculties together initially?

- Ans**
- ☒ A. 48
 - ☐ B. 112
 - ☐ C. 144
 - ☐ D. 80

Q.11 The volume of a cone is 1540 cm^3 and radius is 7 cm. What is the height of the cone?

- Ans**
- ☐ A. 34 cm
 - ☒ B. 30 cm
 - ☐ C. 38 cm
 - ☐ D. 40 cm

Q.12 If $\frac{3}{(4x+3)} + \frac{8}{(9y+8)} + \frac{2305}{(11z+2305)} = 7$, what is the value of $\frac{4x}{(4x+3)} + \frac{9y}{(9y+8)}$

Ans ☒ A. -4

☐ B. 3

☐ C. 4

☐ D. -3

Q.13 A trader marks an article 40% above cost price and allows a 10% discount on the marked price. Find the percentage profit or loss.

Ans ☐ A. loss by 26%

☒ B. profit by 26%

☐ C. profit by 13%

☐ D. loss by 13%

Q.14 A data set has a mean of 15 and a mode of 20. Each value is changed by multiplying it by 3 and then adding 5. Assuming the empirical relation between the mean, median, and mode holds, what is the median of the new data set?

Ans ☐ A. 50

☐ B. 45

☐ C. 60

☒ D. 55

Q.15 A man has invested ₹57500 at a rate of 8% per annum simple interest for 2 years. Find the amount (in ₹) that he will receive after 2 years.

Ans ☐ A. 67700

☐ B. 9200

☐ C. 10200

☒ D. 66700

Q.16 Find the value of $\frac{\sin \theta - \cos \theta + 1}{\sin \theta + \cos \theta - 1}$.

Ans ☐ A. $\operatorname{cosec} \theta + \sec \theta$

☐ B. $\cot \theta + \operatorname{cosec} \theta$

☒ C. $\tan \theta + \sec \theta$

☐ D. $\tan \theta + \operatorname{cosec} \theta$

Q.17 Five years ago from now, Akash was 5 times as old as Prakash. After 5 years from now, he will be 3 times as old as Prakash will then be. The present age of Akash (in years) is:

Ans ☐ A. 56

☐ B. 51

☐ C. 60

☒ D. 55

Q.18 A smart water tank system has two automated pipes. Pipe U1 fills the tank in 5 hours and pipe V1 can drain the tank in 10 hours. Pipe U1 is operated alone for 2 hours, after which V1 is also activated. How much of the tank will be filled after total 5 hours?

Ans ☐ A. $\frac{2}{5}$

☐ B. $\frac{3}{5}$

☐ C. $\frac{1}{2}$

☒ D. $\frac{7}{10}$

Q.19 Nitin sells two articles for ₹6,314 each with no profit, no loss in the entire transaction. If one article was sold at a gain of 75%, then the other article is sold at a loss of:

- Ans**
- ☐ A. 27%
 - ☒ B. 30%
 - ☐ C. 32%
 - ☐ D. 29%

Q.20 Ragini had to make a model of a cylindrical kaleidoscope for her science project. She wanted to use chart paper to make the curved surface of the kaleidoscope. What would be the area of chart paper required by her, if she wanted to make a kaleidoscope of length 55 cm with a 14 cm radius? $\left(\text{Use } \pi = \frac{22}{7} \right)$

- Ans**
- ☐ A. 4887 cm²
 - ☒ B. 4840 cm²
 - ☐ C. 4856 cm²
 - ☐ D. 4884 cm²

Q.21 Two trains are moving in the same direction at 100 km/hr and 60 km/hr, respectively. The faster train crosses a man in the slower train in 9 seconds. What is the length of the faster train?

- Ans**
- ☐ A. 80 m
 - ☐ B. 50 m
 - ☒ C. 100 m
 - ☐ D. 120 m

Q.22 The mean of 12 numbers is 18. If one number 30 is replaced by 6, find the new mean.

- Ans**
- ☒ A. 16
 - ☐ B. 17
 - ☐ C. 19
 - ☐ D. 18

Q.23 A shop runs a "Buy 4, Get b Free" scheme and also gives a trade discount of 20%. If the overall effective discount to the customer is 46 ²/₃%, what is the value of b?

- Ans**
- ☐ A. 3
 - ☐ B. 1
 - ☐ C. 4
 - ☒ D. 2

Q.24 The mean proportion of 5 and 20 is:

- Ans**
- ☒ A. 10
 - ☐ B. 5
 - ☐ C. 20
 - ☐ D. 15

Q.25 The ratio of the areas of two similar triangles is 81 : 121. The ratio of their corresponding heights is:

- Ans**
- ☐ A. 18 : 23
 - ☐ B. 81 : 121
 - ☒ C. 9 : 11
 - ☐ D. 3 : 2

Q.26 XTPS is related to OKGJ in a certain way based on the English alphabetical order. In the same way, EAWZ is related to VRNQ. To which of the following is YUQT related, following the same logic?

- Ans**
- ☒ A. PKGK
 - ☒ B. PLHK
 - ☒ C. PLGK
 - ☒ D. PMGJ

Q.27 Refer to the following letter, symbol series and answer the question. Counting to be done from left to right only.

(Left) F & I Y @ J Y C * A # & K S P \$ B M (Right)

How many such symbols are there each of which are immediately preceded by a consonant and also immediately followed by a vowel?

- Ans**
- ☒ A. Two
 - ☒ B. One
 - ☒ C. Three
 - ☒ D. None

Q.28 What will come in the place of '?' in the following equation, if '+' and '-' are interchanged and 'x' and '÷' are interchanged?

$$18 \div 72 \times 9 + 72 - 16 = ?$$

- Ans**
- ☒ A. 88
 - ☒ B. 80
 - ☒ C. 81
 - ☒ D. 83

Q.29 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 is the one that 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)

- Ans**
- ☒ A. AC-FN
 - ☒ B. SU-XF
 - ☒ C. IL – OW
 - ☒ D. NP-SA

Q.30 In a certain code language, 'JARS' is coded as '4763' and 'ARMS' is coded as '3657'. What is the code for 'M' in the given code language?

- Ans**
- ☒ A. 7
 - ☒ B. 5
 - ☒ C. 3
 - ☒ D. 4

Q.31 Seven people, P, Q, R, S, T, U, and V, are sitting in a row facing north. Only one person sits to the left of P. S sits to the immediate right of P. Only two people sit between S and Q. R sits to the immediate left of V. Only Q sits between U and V. Who sits at the extreme right end of the row?

- Ans**
- ☒ A. V
 - ☒ B. U
 - ☒ C. R
 - ☒ D. Q

Q.32 AEGJ is related to FJLO in a certain way based on the English alphabetical order. In the same way, MQSV is related to RVXA. To which of the following is OSUX related, following the same logic?

- Ans**
- ☒ A. TXZC
 - ☐ B. TWYC
 - ☐ C. TXYC
 - ☐ D. TYYF

Q.33 Seven boxes M, N, O, P, Q, R and S are kept one over the other but not necessarily in the same order.
Only R is kept above M. Only two boxes are kept between M and P. Only N is kept below S. O is not kept immediately above P.
How many boxes are kept between Q and N?

- Ans**
- ☐ A. Two
 - ☒ B. Three
 - ☐ C. Four
 - ☐ D. One

Q.34 26 is related to 130 following a certain logic. Following the same logic, 32 is related to 160. To which of the following is 62 related, following the same logic?
(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)

- Ans**
- ☐ A. 320
 - ☐ B. 330
 - ☒ C. 310
 - ☐ D. 340

Q.35 A question is followed by two statements numbered (I) and (II). You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and decide the appropriate answer.

Question:

Among 5 poles, W, O, K, G and Y each having a different height, which pole is the shortest?

Statements:

I. Y is taller than K.

II. G is taller than Y. W is only shorter than one pole.

- Ans**
- ☒ A. Both statements I and II together are NOT sufficient to answer the question
 - ☐ B. Data in Statement II alone is sufficient to answer the question while data in statement I is not
 - ☐ C. Both statements I and II together (and not statement I alone or statement II alone) are sufficient to answer the question.
 - ☐ D. Data in Statement I alone is sufficient to answer the question while data in statement II is not

Q.36 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 letter-cluster 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 pair.)

- Ans**
- ☒ A. JH–HI
 - ☐ B. NL–MK
 - ☐ C. HF–GE
 - ☐ D. MK–LJ

Q.37 A, B, C, D, E and F live on six different floors of the same building. The lowermost floor in the building is numbered 1, the floor above it, number 2 and so on till the topmost floor is numbered 6. E lives on an even numbered floor but not 4. The sum of floors on which E and F live is 9. Only 3 people live between A and D. The sum of floors on which C and D live is 3. How many people live between D and E?

- Ans**
- ☒ A. 4
 - ☐ B. 3
 - ☐ C. 1
 - ☐ D. 2

Q.38 What should come in place of the '?' in the given series?

2 10 43 176 709 ?

- Ans**
- ☐ A. 4202
 - ☐ B. 4112
 - ☒ C. 2842
 - ☐ D. 2990

Q.39 In this question, a question is followed by two statements numbered (I) and (II). You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and decide the appropriate answer.

Question:

Five people – Abeer, Charita, Dhruv, Eshika and Faris – are sitting in a straight line facing north. Who is sitting at the extreme left end?

Statements:

(I) Abeer sits immediately to the left of Charita, and Dhruv sits immediately to the left of Eshika.

(II) Faris sits immediately to the right of Eshika.

- Ans**
- ☒ A. Both statements I and II together are NOT sufficient to answer the question.
 - ☐ B. Data in Statement I alone is sufficient to answer the question while data in Statement II is not
 - ☐ C. Both statements I and II together (and not statement I alone or statement II alone) are sufficient to answer the question
 - ☐ D. Data in Statement II alone is sufficient to answer the question while data in Statement I is not

Q.40 If 1 is added to each odd digit and 2 is subtracted from each even digit in the number 7421836, what will be the difference of the digits which are second from the left and second from the right in the new number thus formed?

- Ans**
- ☐ A. 0
 - ☒ B. 2
 - ☐ C. 1
 - ☐ D. 3

Q.41 What should come in place of the question mark (?) in the given series based on the English alphabetical order?

BUN VOH PIB JCV ?

- Ans**
- ☐ A. DWE
 - ☒ B. DWP
 - ☐ C. DPW
 - ☐ D. DEW

Q.42 What should come in place of the question mark (?) in the given series?

90 106 74 122 ? 138

- Ans
- ☒ A. 57
 - ☒ B. 60
 - ☒ C. 56
 - ☒ D. 58

Q.43 In a certain code language, 'day bush week' is coded as 'xb yz pp' and 'angle poem day' is coded as 'yz lg el'. How is 'day' coded in the given language?

- Ans
- ☒ A. yz
 - ☒ B. lg
 - ☒ C. xb
 - ☒ D. pp

Q.44 Refer to the following letter series and answer the question. Counting to be done from left to right only.

(Left) X H M F T C A Z F V N J R D T V W I O K U Y H (Right)

How many such consonants are there each of which is immediately preceded by a vowel and also immediately followed by a vowel?

- Ans
- ☒ A. Two
 - ☒ B. Three
 - ☒ C. None
 - ☒ D. One

Q.45 In this question, a group of number/symbol is coded using letter codes as per the codes given below and the conditions which follow. The correct combination of codes following the conditions is your answer. If none of the conditions follow, then codes for the respective Number/Symbol to be followed directly as given in the table.

Number/Symbol # @ 2 ? 4! 9 8 & 7

Code OR UXZCEHK N

Conditions –

- (i) If the first element is a symbol and the last a number, the codes for these two (the first and the last elements) are to be interchanged.
- (ii) If the first element is an odd number and the last an even number, the first and last elements are to be coded as ©.
- (iii) If both second and third elements are perfect squares, the third element is to be coded as the code for the second element.

What is the code for the following group of number-symbols?

7 @ ? 9 2

- Ans
- ☒ A. N R X E ©
 - ☒ B. © R E X U
 - ☒ C. © R X E ©
 - ☒ D. N R E X U

Q.46 Nitin starts from Point A and drives 12 km towards south. He then takes a left turn, drives 15 km, turns left and drives 14 km. He then takes a left turn and drives 19 km. He takes a final left turn, drives 2 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-degree turns only unless specified.)

- Ans
- ☒ A. 4 km to the east
 - ☒ B. 6 km to the west
 - ☒ C. 4 km to the west
 - ☒ D. 6 km to the east

Q.47 If 'A' stands for '÷', 'B' stands for 'x', 'C' stands for '+' and 'D' stands for '-', what will come in place of the question mark '?' in the following equation?

846 D 651 C 297 B 54 A 486=?

- Ans**
- ☐ A. 162
 - ☐ B. 118
 - ☐ C. 126
 - ☒ D. 228

Q.48 Each vowel in the word SHIFTER is changed to the letter immediately following it in the English alphabetical order and each consonant is changed to the letter immediately preceding it in the English alphabetical order. How many letters appear twice in the group of letters thus formed?

- Ans**
- ☐ A. 1
 - ☐ B. 2
 - ☒ C. 0
 - ☐ D. 3

Q.49 The position(s) of how many letters will remain unchanged if each letter in the word BRINJAL is arranged in the English alphabetical order?

- Ans**
- ☐ A. 3
 - ☒ B. 1
 - ☐ C. 4
 - ☐ D. 2

Q.50 Sunita is the wife of Mohan. Mohan is the son of Rajesh. Rajesh is the father of Karan. Karan is the brother of Neha. How is Sunita related to Neha?

- Ans**
- ☐ A. Daughter
 - ☒ B. Brother's wife
 - ☐ C. Brother's daughter
 - ☐ D. Wife

Section : General Science

Q.51 Which sequence describes effects of deforestation (biosphere) leading to consequent changes in the atmosphere, hydrosphere, and geosphere?

- Ans**
- ☐ A. Deforestation causes soil erosion which only affects the land and leaves water and air unchanged.
 - ☐ B. Deforestation only reduces animal habitats and reduces availability of food resources.
 - ☒ C. Deforestation increases carbon dioxide, causes soil erosion, and changes water flow patterns.
 - ☐ D. Deforestation makes fertile land barren and does not affect atmosphere and hydrosphere.

Q.52 Which process results in the formation of a molecule of a compound?

- Ans**
- ☐ A. Separation of atoms from a molecule
 - ☐ B. Physical mixing of different atoms
 - ☒ C. Chemical bonding between atoms of the same element
 - ☐ D. Chemical bonding between atoms of different elements

Q.53 Which statement best describes the function of micelles formed by soaps in water?

- Ans**
- ☒ A. Micelles trap oily dirt inside their non-polar centers and disperse in water.
 - ☐ B. Micelles only form in the absence of water.
 - ☐ C. Micelles break down water molecules into ions for cleaning.
 - ☐ D. Micelles change the pH of water to dissolve dirt.

Q.54 When is the work done by a constant force on an object zero?

- Ans
- ☒ A. When there is no displacement
 - ☐ B. When mass remains unchanged
 - ☐ C. When force is applied continuously
 - ☐ D. When speed is constant

Q.55 An object is placed 10 cm from a diverging lens with a focal length of 15 cm. What is the position of the image formed?

- Ans
- ☐ A. 30 cm from the lens on the other side
 - ☒ B. 6 cm from the lens on the same side as the object
 - ☐ C. 15 cm from the lens on the other side
 - ☐ D. 8.6 cm from the lens on the other side

Q.56 Which of the following methods is used to prevent unwanted pregnancies in human beings?

- Ans
- ☐ A. Good nutrition
 - ☐ B. Regular exercise
 - ☐ C. Vaccination
 - ☒ D. Use of contraceptives

Q.57 Which of the following is a balanced chemical equation for the reaction of sodium hydrogencarbonate with hydrochloric acid?

- Ans
- ☒ A. $\text{NaHCO}_3 + \text{HCl} \rightarrow \text{NaCl} + \text{H}_2\text{O} + \text{CO}_2$
 - ☐ B. $\text{NaHCO}_3 + \text{H}_2\text{SO}_4 \rightarrow \text{NaSO}_4 + \text{H}_2\text{O}$
 - ☐ C. $\text{NaHCO}_3 + \text{HCl} \rightarrow \text{NaCl} + \text{H}_2\text{O} + \text{CO}$
 - ☐ D. $\text{NaHCO}_3 + \text{HCl} \rightarrow \text{NaCl} + \text{HCl} + \text{CO}_2$

Q.58 Which of the following cells regulates the cellular function of sieve tube cells?

- Ans
- ☐ A. Phloem parenchyma
 - ☐ B. Phloem fibre
 - ☐ C. Xylem vessels
 - ☒ D. Companion cells

Q.59 What is the main purpose of anodising aluminium during its surface treatment process?

- Ans
- ☒ A. To form thicker oxide layer preventing corrosion
 - ☐ B. To convert aluminium into an alloy
 - ☐ C. To remove oxide layer completely from surface
 - ☐ D. To increase electrical conductivity of aluminium

Q.60 A chemist wants to separate a mixture of sand and muddy water. She uses a filter paper and a funnel to accomplish this. Based on the properties of suspensions, which statement is correct why this method is effective?

- Ans
- ☒ A. The particles in a suspension are large enough to be trapped by filter paper.
 - ☐ B. Suspensions cannot be separated by filtration and require evaporation.
 - ☐ C. All mixtures can be separated using only a magnet.
 - ☐ D. The particles in a suspension dissolve completely in the water.

Q.61 A current carrying conductor is placed in a magnetic field which is vertically downward. The conductor is oriented horizontally from west to east. The conductor experienced a force _____.

- Ans
- ☐ A. towards the east.
 - ☒ B. towards the north.
 - ☐ C. towards the south.
 - ☐ D. towards the west.

Q.62 For an object moving with uniform retardation, the velocity–time graph is _____.

- Ans**
- ☒ A. A straight line sloping downward
 - ☐ B. A straight line parallel to the time axis
 - ☐ C. A straight line sloping upward
 - ☐ D. A curved line

Q.63 Which statement correctly describes an addition reaction?

- Ans**
- ☐ A. A solid forms from two solutions
 - ☐ B. A compound splits into two products
 - ☐ C. One atom replaces another in a compound
 - ☒ D. Two substances combine to form one product

Q.64 Which type of blood vessel is primarily responsible for exchanging nutrients and waste between blood and tissues?

- Ans**
- ☐ A. Lymphatic vessels
 - ☐ B. Arteries
 - ☒ C. Capillaries
 - ☐ D. Veins

Q.65 In a classroom experiment, a student tightly holds the prongs of a tuning fork after striking it and listens carefully. No sound is heard. Which explanation best fits this observation?

- Ans**
- ☐ A. It was struck too lightly to produce sound
 - ☐ B. The surrounding air blocks the sound
 - ☒ C. The vibrations are absorbed by the hand
 - ☐ D. The tuning fork is made of metal

Q.66 Which of these statements is a key idea of the cell theory?

- Ans**
- ☐ A. Cells can only be seen with a microscope.
 - ☐ B. Cells are only found in animals.
 - ☒ C. All living organisms are made up of cells.
 - ☐ D. Cells do not carry out life processes.

Q.67 A student observes two invertebrates—one has a muscular foot, while the other has a chitinous exoskeleton. To which phyla do these organisms belong?

- Ans**
- ☐ A. Annelida and Echinodermata
 - ☒ B. Mollusca and Arthropoda
 - ☐ C. Echinodermata and Mollusca
 - ☐ D. Annelida and Arthropoda

Q.68 Which property is most commonly associated with ionic compounds?

- Ans**
- ☐ A. Low solubility in water
 - ☐ B. Poor electrical conductivity in molten state
 - ☐ C. Soft and brittle in solid state
 - ☒ D. High melting and boiling points

Q.69 A city plans to build a landfill which is near a river and farmland to manage growing waste. Which strategy best protects the ecosystem while supporting urban development?

- Ans**
- ☐ A. Relocate the landfill to a distant rural area without extra measures.
 - ☒ B. Build the landfill with protective liners and fund community recycling programs.
 - ☐ C. Dispose city waste directly into the river and farmland as a last resort.
 - ☐ D. Build incinerators near the river to reduce landfill waste.

Q.70 Soft sounds are produced when the amplitude of vibration is ____.

- Ans
- ☐ A. Infinite
 - ☐ B. Large
 - ☒ C. Small
 - ☐ D. Zero

Q.71 A student records the total distance covered as 200 meters and the displacement as 120 meters in 50 seconds during a straight-line walk. Which statement best characterizes the relationship between average speed and average velocity in this situation?

- Ans
- ☐ A. Average velocity is greater than average speed as displacement is less than distance
 - ☐ B. Average speed equals average velocity since both are calculated over the same time
 - ☒ C. Average speed is greater than average velocity because total distance exceeds displacement
 - ☐ D. Average speed is less than average velocity because displacement is less than distance

Q.72 Which strategy will promote maximum vertical growth of bean plants in a hydroponic system with light coming from one side?

- Ans
- ☐ A. Use only artificial wind to support stem strength
 - ☐ B. Keep plants stationary under the single light
 - ☒ C. Rotate the plants regularly for even light exposure
 - ☐ D. Add extra nutrients to accelerate overall growth

Q.73 In a velocity-time graph for uniform motion, what does the area under the line represent?

- Ans
- ☐ A. Acceleration of the object
 - ☐ B. Force applied on the body
 - ☐ C. Mass of object
 - ☒ D. Displacement of the object

Q.74 Identify the statement(s) that accurately describe situations involving refraction.
(i) The apparent depth of a swimming pool is less than its actual depth due to refraction.
(ii) We are able to see our image in a plane mirror due to refraction.
(iii) A pencil partially dipped in water appears bent at the water surface due to refraction.
(iv) Refraction makes a white wall appear colored at night.

- Ans
- ☐ A. Both (i) and (iv)
 - ☒ B. Both (i) and (iii)
 - ☐ C. Both (ii) and (iii)
 - ☐ D. Both (ii) and (iv)

Q.75 A student observes an aquatic plant with an undifferentiated body exchanging substances directly with the surrounding water. To which plant group does it most likely belong?

- Ans
- ☐ A. Lichen
 - ☐ B. Pteridophyta
 - ☒ C. Thallophyta
 - ☐ D. Bryophyta

Q.76 A runner moves along a straight track. For the first 4 seconds, she runs at a constant velocity of 5 m/s. For the next 4 seconds, she decelerates uniformly and comes to rest. What is the total distance she covers in 8 seconds?

- Ans
- ☐ A. 28 meters
 - ☐ B. 32 meters
 - ☒ C. 30 meters
 - ☐ D. 36 meters

Q.77 Which of the following pairs of articles does NOT represent nonbiodegradable substances?

- Ans**
- ☐ A. Wrapper and plastic bottle
 - ☐ B. Plastic jar and polythene
 - ☐ C. Polythene bag and synthetic fertiliser chemical
 - ☒ D. Wooden bottle and wooden plate

Q.78 During a 60-minute walk, a hiker moves 2 km north, then 2 km east, and finally 2 km south. Evaluating the hiker's average velocity compared to average speed for the entire walk, which observation is most accurate?

- Ans**
- ☐ A. The average velocity is zero because the hiker's path forms a triangle.
 - ☐ B. The average velocity is greater than the average speed because the motion is in straight lines.
 - ☐ C. The average velocity equals the average speed since all segments are the same length.
 - ☒ D. The average velocity is less than the average speed due to the difference between displacement and total distance.

Q.79 Which carbon compound is least likely to undergo an addition reaction?

- Ans**
- ☐ A. Pentyne
 - ☒ B. Pentane
 - ☐ C. Pentadiene
 - ☐ D. Pentene

Q.80 A ray of light passes through the center of curvature of a concave mirror after reflection. Which path will it follow and why?

- Ans**
- ☐ A. It will converge at the principal focus because rays passing through the center of curvature always meet at the focus after reflection.
 - ☒ B. It will retrace its path because it strikes the mirror at a right angle to the surface.
 - ☐ C. It will diverge after reflection because the concave mirror causes rays to spread out from the surface.
 - ☐ D. It will emerge parallel to the principal axis because rays incident through the center of curvature become parallel after reflection.

Q.81 If a device operates at constant power, what happens to the total work done if the device runs for a longer duration?

- Ans**
- ☐ A. The total work done remains the same regardless of time.
 - ☐ B. The total work done decreases as time increases.
 - ☒ C. The total work done increases with more time.
 - ☐ D. Work and time are unrelated at constant power.

Q.82 Which of the following is the best example of a heterogeneous mixture?

- Ans**
- ☒ A. Sand and iron filings
 - ☐ B. Air
 - ☐ C. Salt water
 - ☐ D. Vinegar

Q.83 What is the main function of the pollen tube after pollination?

- Ans**
- ☒ A. To carry the male gametes to the ovule
 - ☐ B. To develop into the fruit wall
 - ☐ C. To protect the flower from insects
 - ☐ D. To produce nectar for pollinators

Q.84 If an atom of magnesium loses a proton, what happens to its atomic number and identity?

- Ans
- ☒ A. The atomic number decreases by one and it becomes a new element
 - ☐ B. The atomic number increases by one and it becomes an isotope
 - ☐ C. The atomic number remains unchanged but it becomes an ion
 - ☐ D. The atomic number increases by one but it stays magnesium

Q.85 Which method is commonly used to separate a mixture of two miscible liquids with different boiling points?

- Ans
- ☐ A. Chromatography
 - ☐ B. Sedimentation
 - ☒ C. Distillation
 - ☐ D. Filtration

Q.86 Which statement accurately compares the carbon content of the oceans to that of the atmosphere?

- Ans
- ☐ A. The atmosphere and oceans store equal amounts of carbon.
 - ☐ B. Oceans store only a minor percentage out of total quantity of global carbon.
 - ☒ C. The oceans act as a much larger reservoir of carbon than the atmosphere.
 - ☐ D. The atmosphere is the largest carbon reservoir than the oceans on Earth.

Q.87 How do plants help maintain the carbon cycle by absorbing carbon dioxide from the atmosphere?

- Ans
- ☐ A. Plants releases carbon dioxide unchanged.
 - ☐ B. Plants convert carbon dioxide into urea.
 - ☒ C. Plants convert carbon into sugar molecules.
 - ☐ D. Plants store carbon dioxide as gas in the cells.

Q.88 In the reaction where copper(II) oxide reacts with hydrogen gas to form copper and water, which substance undergoes reduction?

- Ans
- ☒ A. Copper(II) oxide
 - ☐ B. Copper
 - ☐ C. Hydrogen
 - ☐ D. Water

Q.89 The kinetic energy of a body of mass 'X' kg is 200 J when it is moving with a velocity of 2 m/s. What will be the value of X?

- Ans
- ☐ A. 50 kg
 - ☐ B. 200 kg
 - ☒ C. 100 kg
 - ☐ D. 400 kg

Q.90 Consider the following statements regarding Thomson's model of an atom.

Statement I: The atom is a sphere of positive charge with electrons scattered inside it.
Statement II: Thomson's model could explain the presence of the nucleus in an atom.

Which of the following is TRUE?

- Ans
- ☐ A. Both statements I and II are true
 - ☐ B. Both statements I and II are false
 - ☐ C. Only statement II is true
 - ☒ D. Only statement I is true

- Q.91** According to the Provisional Estimates (PE) of Annual Gross Domestic Product (GDP) for the Financial Year (2025-26) and Quarterly Estimates of GDP for the Fourth Quarter (Q4, January-March) of FY 2025-26, what was the estimated real GDP growth rate of India for the Financial Year 2025-26, based on the new GDP series with the base year 2022-23?
- Ans** ☒ A. 6.5%
☒ B. 5.1%
☒ C. 7.7%
☒ D. 4.2%
- Q.92** In July 2026, on which railway section did India's first hydrogen fuel cell-powered train begin operations?
- Ans** ☒ A. Rohtak-Hisar section
☒ B. Jind-Sonipat section
☒ C. Ambala-Ludhiana section
☒ D. Delhi-Panipat section
- Q.93** Under the Transgender Persons (Protection of Rights) Amendment Act, 2026, which of the following categories has been newly included?
- Ans** ☒ A. Eunuch
☒ B. Trans-man
☒ C. Trans-woman
☒ D. Genderqueer
- Q.94** In the Investment Friendliness Index released by NITI Aayog in July 2026, which state emerged as the highest-ranked among the Hilly and North-Eastern States?
- Ans** ☒ A. Sikkim
☒ B. Uttarakhand
☒ C. Assam
☒ D. Himachal Pradesh
- Q.95** According to the Union Budget of India 2026-27, which new fund has been proposed to strengthen the confidence of private developers during the infrastructure development and construction phase?
- Ans** ☒ A. Infrastructure Development Finance Fund
☒ B. Infrastructure Risk Guarantee Fund
☒ C. Public Infrastructure Support Fund
☒ D. National Infrastructure Investment Fund
- Q.96** Which film won the Best Children's and Family Film at the 79th British Academy Film Awards (BAFTAs) in 2026?
- Ans** ☒ A. Anil Kumar's Journey
☒ B. Lakshmipriya Devi's Boong
☒ C. Meera Patel's Dreamland
☒ D. Rohan Sharma's The Adventure
- Q.97** Which government initiative in 2025 established a unified emergency number (112) operational across all States and Union Territories, integrated with women's helplines to enhance safety and timely response for women in distress in Indian cities?
- Ans** ☒ A. National Urban Emergency Transport Policy
☒ B. Pradhan Mantri Emergency Suraksha Abhiyan
☒ C. Safe Cities & Emergency Public Transit Scheme
☒ D. Emergency Response Support System

Q.98 The Indian Institute of Science (IISc) launched the Moonshot project in March 2026 with the objective of developing what?

- Ans**
- ☐ A. Quantum communication satellites
 - ☒ B. Brain co-processors
 - ☐ C. Reusable launch vehicles
 - ☐ D. AI-powered humanoid robots

Q.99 Under the Padma Awards 2026, Shatavadhani R. Ganesh was conferred the Padma Bhushan in the field of Art. He belonged to which state?

- Ans**
- ☐ A. Tamil Nadu
 - ☐ B. Kerala
 - ☐ C. Andhra Pradesh
 - ☒ D. Karnataka

Q.100 Which key government body released the 'Strategic Roadmap for Making Ayurveda Global' in July 2026?

- Ans**
- ☐ A. Ministry of Ayush
 - ☐ B. Prime Minister's Office
 - ☐ C. Ministry of External Affairs
 - ☒ D. NITI Aayog



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सीईएन ०२/२०२६ - तकनीशियन ग्रेड I सिगनल और तकनीशियन ग्रेड III
CEN 02/2026 - Technician Grade I Signal and Technician Grade III



Test Date	07/10/2026
Test Time	4:30 PM - 6:00 PM
Subject	RRB Technician Grade III

*** Note**

Correct Answer will carry 1 mark per Question.

Incorrect Answer will carry 1/3 Negative mark per Question.

1. Options shown in green color with a tick icon are correct.

2. Chosen option on the right of the question indicates the option selected by the candidate.

Section : Mathematics

Q.1 A sum of money is distributed among Amit, Bharat and Chetan in the ratio of 5 : 7 : 9. If the share of Bharat is ₹490 less than the combined share of Amit and Chetan, then what is the total sum of money distributed among them?

Ans ☒ A. ₹1484

☒ B. ₹1430

☒ C. ₹1449

☒ D. ₹1470

Q.2 Two friends K and G share the profit in the ratio of 7 : 5. If the monthly profit is ₹72,000, then the share of K is:

Ans ☒ A. a multiple of 7

☒ B. a multiple of 9

☒ C. ₹10,000 more than the share of G

☒ D. ₹8,000 more than the share of G

Q.3 The product of two consecutive prime numbers is 437. The difference between these two prime numbers is:

Ans ☒ A. 6

☒ B. 4

☒ C. 2

☒ D. 8

Q.4 Pipe A can fill a tank in 24 hours and Pipe B can fill the same tank in 36 hours. If both pipes are opened together, how long will they take to fill the tank?

Ans ☒ A. 16 hours

☒ B. 16.4 hours

☒ C. 14.4 hours

☒ D. 14 hours

- Q.5** The average sale of cars by a dealer per day in the month of March, other than on Saturdays and Sundays, is 163. The average sale of cars per day on Sundays is 125. What is the average sale of cars per day on Saturdays, if the first Saturday is on the 3rd of March and average sale of cars per day for the whole month is 171?
- Ans** ☒ A. 247
☒ B. 243
☒ C. 242
☒ D. 246
- Q.6** A shopkeeper purchases 240 pens at the rate of 5 pens for ₹40 and sells them at the rate of 4 pens for ₹44. What is the profit percentage earned by the shopkeeper?
- Ans** ☒ A. 37.5%
☒ B. 35%
☒ C. 32.5%
☒ D. 30%
- Q.7** A dump truck runs 54 km on 12 liters of fuel. How many kilometres will it run on 60 liters of fuel?
- Ans** ☒ A. 272
☒ B. 270
☒ C. 274
☒ D. 268
- Q.8** On a circular path of 1778 m, Rashika and Shifa start walking from the same point but in the opposite directions at the speed of 5.3 m/s and X m/sec, respectively, they will meet for the first time after 127 seconds. Find the value of X.
- Ans** ☒ A. 4.6
☒ B. 8.7
☒ C. 6.6
☒ D. 3.8
- Q.9** A cylindrical pillar is 80 cm in diameter and 35 m in height. Find the cost of painting the curved surface of the pillar at the rate of ₹45 per m². $\left(\text{Use } \pi = \frac{22}{7} \right)$
- Ans** ☒ A. ₹3,960
☒ B. ₹3,983
☒ C. ₹3,921
☒ D. ₹3,988
- Q.10** A sum of money invested at compound interest triples itself in 15 years. At the same annual rate of interest, in how many years will it become 27 times its original value?
- Ans** ☒ A. 60 years
☒ B. 30 years
☒ C. 75 years
☒ D. 45 years
- Q.11** A shopkeeper marks an article 60% above its cost price. He offers a discount of 20% on the marked price and still earns a profit of ₹840. What is the marked price of the article?
- Ans** ☒ A. ₹4800
☒ B. ₹8400
☒ C. ₹4000
☒ D. ₹6400

Q.12 There are two concentric circles with centre P. The larger circle has radius PQ = 10 cm, and the smaller circle has radius PR = 8 cm. TQ is a tangent to the larger circle from an external point T (touching it at Q), and TR is a tangent to the smaller circle from the same point T (touching it at R). If TQ = 24 cm, find the value of (TR – PR)/PQ.

- Ans
- ☒ A. $\frac{2\sqrt{17}-3}{5}$
 - ☒ B. $\frac{3\sqrt{17}+18}{10}$
 - ☒ C. $\frac{3\sqrt{17}-4}{5}$
 - ☒ D. $\frac{\sqrt{17}-4}{5}$

Q.13 Given that the median of the numbers 15,8,11,21,32,5,25,7 is m. If 15 is replaced by 7, then the new median is n. Find the difference between m and n.

- Ans
- ☒ A. 3.5
 - ☒ B. 2.5
 - ☒ C. 4.5
 - ☒ D. 1.5

Q.14 A man has invested ₹57500 at a rate of 12% per annum simple interest for 4 years. Find the amount (in ₹) that he will receive after 4 years.

- Ans
- ☒ A. 28600
 - ☒ B. 86100
 - ☒ C. 27600
 - ☒ D. 85100

Q.15 A cylindrical tank of radius 7 cm can contain 2156 cm³ of water. What is its height?

(Take $\pi = \frac{22}{7}$)

- Ans
- ☒ A. 12 cm
 - ☒ B. 8 cm
 - ☒ C. 10 cm
 - ☒ D. 14 cm

Q.16 An express train covers a certain distance at a uniform speed. If its speed was increased by 16 km/h, it would take 8 hours less than the scheduled time. If its speed was decreased by 16 km/h, it would take 12 hours more than the scheduled time. Find the length of the journey.

- Ans
- ☒ A. 3640 km
 - ☒ B. 3840 km
 - ☒ C. 4040 km
 - ☒ D. 4140 km

Q.17 A and B can complete a piece of work in 12 days and 18 days respectively. They work together for 4 days, after which A leaves the work. B continues alone for 6 days, and then C joins B. If C alone can complete the whole work in 9 days, find the total time (in days) taken to complete the work.

- Ans
- ☒ A. $10\frac{2}{3}$
 - ☐ B. $10\frac{5}{3}$
 - ☐ C. $11\frac{2}{3}$
 - ☐ D. $9\frac{2}{3}$

Q.18 Twice Manvi's age plus Tanvi's age is 37 years. Tanvi's father is twice as old as Tanvi, and Manvi's brother is 5 years older than Manvi. The sum of the ages of Tanvi's father and Manvi's brother is 43 years. Find the sum of the ages (in years) of Manvi and Tanvi.

- Ans
- ☐ A. 28
 - ☒ B. 25
 - ☐ C. 30
 - ☐ D. 22

Q.19 The arithmetic mean of 21 numbers is 48. The mean of the first 10 numbers is 49 and the mean of the last 10 numbers is 45. Find the 11th number.

- Ans
- ☐ A. 64
 - ☒ B. 68
 - ☐ C. 72
 - ☐ D. 88

Q.20 If $a \sin^3\theta + b \cos^3\theta = \sin\theta \cos\theta$ and $a \sin\theta = b \cos\theta$, then value of :

- Ans
- ☐ A. 4
 - ☒ B. 1
 - ☐ C. 9
 - ☐ D. $\frac{1}{4}$

Q.21 A vendor marks up the cost price of a product by 25% and then offers a 10% discount on the marked price. What is the net profit percentage earned by the vendor?

- Ans
- ☐ A. 10%
 - ☒ B. 12.5%
 - ☐ C. 18.5%
 - ☐ D. 20%

Q.22 If 20% of k is 15 less than 1200% of 10, then k is:

- Ans
- ☐ A. 505
 - ☒ B. 525
 - ☐ C. 565
 - ☐ D. 485

Q.23 In a trapezium PQRS, $PQ \parallel RS$. Calculate $\angle R$ if $\angle P = 72^\circ$ and $\angle Q = 54^\circ$.

- Ans
- ☐ A. 108°
 - ☐ B. 72°
 - ☒ C. 126°
 - ☐ D. 54°

Q.24 Six years ago from now, Nirbhay was 8 times as old as Vismay. After 6 years from now, he will be 2 times as old as Vismay will then be. The present age of Nirbhay (in years) is:

- Ans
- ☒ A. 20
 - ☒ B. 19
 - ☒ C. 22
 - ☒ D. 23

Q.25 An initial sum of ₹6,600 will increase to ₹6,798 at an annual interest rate of 6% per annum, compounded semi-annually, over X years. The value of X is:

- Ans
- ☒ A. 0.5
 - ☒ B. 1.25
 - ☒ C. 0.75
 - ☒ D. 1

Section : General Intelligence and Reasoning

Q.26 What should come in place of the question mark (?) in the given series based on the English alphabetical order?

VAN QVI LQD GLY ?

- Ans
- ☒ A. BGY
 - ☒ B. BTY
 - ☒ C. BGT
 - ☒ D. BTG

Q.27 Refer to the following letter series and answer the question. Counting to be done from left to right only.

(Left) R F D Q A L M F W S O U T A L E T G D V B T K U (Right)

How many such consonants are there each of which is immediately preceded by a vowel and also immediately followed by a vowel?

- Ans
- ☒ A. None
 - ☒ B. Two
 - ☒ C. Three
 - ☒ D. One

Q.28 In this question, a group of number/symbol is coded using letter codes as per the codes given below and the conditions which follow. The correct combination of codes following the conditions is your answer. If none of the conditions follow, then codes for the respective Number/Symbol to be followed directly as given in the table.

Number/Symbol 9 ^ 3 + 1 \$ 8 % 5 =

Code M P S V Y A D F I L

Conditions –

(i) If the first element is a symbol and the last a number, the codes for these two (the first and the last elements) are to be interchanged.

(ii) If the first element is an odd number and the last an even number, the first and last elements are to be coded as ©

(iii) If both second and third elements are perfect squares, the third element is to be coded as the code for the second element.

8 1 9 + ^

- Ans
- ☒ A. P M Y V D
 - ☒ B. P Y M V D
 - ☒ C. D Y Y V P
 - ☒ D. D M M V P

Q.29 If '+' means '-', '-' means 'x', 'x' means '÷', '÷' means '+', then what will come in place of the question mark (?) in the following equation?

$$12 - 8 \div 4 + 24 \times 4 = ?$$

- Ans**
- ☒ A. 94
 - ☐ B. 90
 - ☐ C. 92
 - ☐ D. 96

Q.30 What should come in place of the question mark (?) in the given series?
9 11 14 18 23 ?

- Ans**
- ☐ A. 28
 - ☐ B. 30
 - ☐ C. 27
 - ☒ D. 29

Q.31 Refer to the following letter, symbol series and answer the question. Counting to be done from left to right only.

(Left) F & I Y @ J Y C * A # & K S P \$ B M (Right)

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

- Ans**
- ☐ A. None
 - ☐ B. Two
 - ☐ C. Three
 - ☒ D. One

Q.32 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.)

- Ans**
- ☒ A. SPL
 - ☐ B. KIE
 - ☐ C. FDZ
 - ☐ D. XVR

Q.33 D is the mother of L. L is the sister of U. V is the father of O. O is the husband of U. How is D related to O?

- Ans**
- ☐ A. Mother's mother
 - ☐ B. Mother
 - ☒ C. Wife's Mother
 - ☐ D. Wife's

Q.34 Mr. Riek starts from Point A and walks 22 km towards North. He then takes a left turn, walks 30 km, turns left and walks 28 km. He then takes a left turn and walks 39 km. He takes a final left turn, walks 6 km and stops at Point P. How far (shortest distance) and towards which direction should he walk in order to reach Point A again? (All turns are 90 degrees turns only unless specified)

- Ans**
- ☐ A. 10 km to the north
 - ☒ B. 9 km to the west
 - ☐ C. 7 km to the east
 - ☐ D. 11 km to the south

Q.35 In a certain code language, 'JACK' is coded as '2396' and 'CAKE' is coded as '7963'. What is the code for 'E' in the given code language?

- Ans**
- ☐ A. 6
 - ☐ B. 9
 - ☐ C. 3
 - ☒ D. 7

Q.36 In this question, a question is followed by two statements numbered (I) and (II). You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and decide the appropriate answer.

Q. Among T, U, V, W, and X, who is the youngest?

(I) U is younger than T and W but older than X.

(II) V is younger than U. X is not the youngest.

- Ans**
- ☐ A. Data in Statement I alone is sufficient to answer the question while data in statement II is not
 - ☐ B. Both statements I and II together are NOT sufficient to answer the question.
 - ☐ C. Data in Statement II alone is sufficient to answer the question while data in statement I is not
 - ☒ D. Both statements I and II together (and not statement I alone or statement II alone) are sufficient to answer the question.

Q.37 24 is related to 168 following a certain logic. Following the same logic, 27 is related to 189. To which of the following is 33 related, following the same logic?
(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into their constituent digits. E.g. 13 – Operations on 13 such as adding / subtracting /multiplying to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)

- Ans**
- ☐ A. 293
 - ☐ B. 311
 - ☐ C. 271
 - ☒ D. 231

Q.38 What should come in place of '?' in the given series?

99 89 81 75 71 ?

- Ans**
- ☐ A. 64
 - ☒ B. 69
 - ☐ C. 46
 - ☐ D. 50

Q.39 Each vowel in the word FILMERS is changed to the letter immediately following it in the English alphabetical order and each consonant is changed to the letter immediately preceding it in the English alphabetical order. How many letters will appear exactly twice in the group of letters thus formed?

- Ans**
- ☐ A. 2
 - ☐ B. 1
 - ☒ C. 0
 - ☐ D. 3

Q.40 After arranging the letters of the word SILENT in the English alphabetical order, how many letters remain in the same place as in the original word?

- Ans**
- ☐ A. None
 - ☐ B. One
 - ☒ C. Three
 - ☐ D. Two

Q.41 Select the pair that follows the same pattern as that followed by the two pairs given below. Both pairs follow the same pattern.

IFG–KHI
LIJ–NKL

- Ans**
- ☐ A. KGG–MJK
 - ☐ B. KGG–LIJ
 - ☐ C. KHI–LJJ
 - ☒ D. KHI–MJK

Q.42 In this question, a question is followed by two statements numbered (I) and (II). You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and decide the appropriate answer.

Among 5 trees, B, F, G, I and L each having a different height, which tree is the tallest?

(I) G is shorter than L

(II) I is taller than L

- Ans**
- ☐ A. Data in Statement II alone is sufficient to answer the question while data in statement I is not
 - ☒ B. Both statements I and II together are NOT sufficient to answer the question
 - ☐ C. Both statements I and II together (and not statement I alone or statement II alone) are sufficient to answer the question.
 - ☐ D. Data in Statement I alone is sufficient to answer the question while data in statement II is not

Q.43 In a certain code language, 'don't be jealous' is written as 'ac dp mo' and 'be on time' is coded as 'mo lk zb'. How is 'be' coded in the given language?

- Ans**
- ☐ A. ac
 - ☒ B. mo
 - ☐ C. dp
 - ☐ D. zb

Q.44 Seven boxes A, B, C, D, E, F and G are kept one over the other but not necessarily in the same order.
No box is kept above F. Only three boxes are kept between F and E. Only one box is kept between C and D. D is kept immediately above E. Only four boxes are kept between C and G. A is kept at some place above B. Which box is kept at third from the top?

- Ans**
- ☐ A. D
 - ☐ B. F
 - ☐ C. B
 - ☒ D. A

Q.45 P, Q, R, S, T, U and V live on seven different floors of the same building. The lowermost floor in the building is numbered 1, the floor above it, number 2 and so on till the topmost floor is numbered 7. Only P lives below U. Only four people live between U and R. T lives on an odd numbered floor immediately above S. Q does not live on even numbered floor. Who lives on floor number 6?

- Ans**
- ☐ A. S
 - ☒ B. V
 - ☐ C. U
 - ☐ D. R

Q.46 If 1 is added to each odd digit and 2 is subtracted from each even digit in the number 8624357, what will be difference between the highest and lowest digits in the number thus formed?

- Ans**
- ☐ A. 6
 - ☐ B. 7
 - ☒ C. 8
 - ☐ D. 9

Q.47 UQTU is related to TPST in a certain way based on the English alphabetical order. In the same way, KGJK is related to JFIJ. To which of the following is TPST related, following the same logic?

- Ans**
- ☒ A. SPQR
 - ☒ B. SORS
 - ☒ C. SOQS
 - ☒ D. SNQS

Q.48 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 is the one that 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.)

- Ans**
- ☒ A. IJ - MN
 - ☒ B. LJ - KM
 - ☒ C. MK - LN
 - ☒ D. DB - CE

Q.49 If 'A' stands for ' $\div$ ', 'B' stands for ' $\times$ ', 'C' stands for '+', and 'D' stands for '-', what will come in place of the question mark (?) in the following equation?
 $18\ D\ 4\ A\ 4\ B\ 8\ C\ 30 = ?$

- Ans**
- ☒ A. 41
 - ☒ B. 45
 - ☒ C. 40
 - ☒ D. 42

Q.50 Seven people, Q, B, M, L, R, K and G are sitting in a row, facing north. K sits fifth from the left end of the row. Only four people sit to the right of R. Q is the immediate neighbour of B and K. G sits to the immediate right of M. How many people sit between L and G?

- Ans**
- ☒ A. Four
 - ☒ B. One
 - ☒ C. Two
 - ☒ D. Three

Section : General Science

Q.51 Which scenario demonstrates a higher power output, assuming the same work is done in each?

- Ans**
- ☒ A. Completing the work in a shorter time interval
 - ☒ B. Performing the work over a longer time interval
 - ☒ C. Using less energy for the same amount of work
 - ☒ D. Applying more force for the same amount of work

Q.52 Which characteristic supports the classification of yeast under the kingdom Fungi?

- Ans**
- ☒ A. It is a photosynthetic organism that produces its own food.
 - ☒ B. It is a multicellular organism that forms a mycelium.
 - ☒ C. It is a prokaryotic organism lacking a true nucleus.
 - ☒ D. It is a unicellular organism, but its cell wall is made of chitin.

Q.53 In which of the following situations will a current-carrying conductor experience maximum force in a magnetic field?

- Ans**
- ☒ A. When the conductor is placed perpendicular to the magnetic field lines
 - ☒ B. When the conductor is placed parallel to the magnetic field lines
 - ☒ C. When the conductor is placed at an angle less than 90 degrees to the field lines
 - ☒ D. When there is no current in the conductor

Q.54 Which gas is released when hydrochloric acid reacts with sodium hydrogencarbonate?

- Ans**
- ☒ A. Carbon dioxide is released
 - ☐ B. Hydrogen gas is released
 - ☐ C. Ammonia gas is released
 - ☐ D. Oxygen gas is released

Q.55 Simple machines are best described as devices that _____.

- Ans**
- ☐ A. increase friction during movement
 - ☐ B. replace all human effort in work
 - ☒ C. allow a smaller force to move a larger load
 - ☐ D. change the material being moved

Q.56 Which of the following reactions best represents a combination reaction?

- Ans**
- ☒ A. Magnesium reacts with oxygen to form magnesium oxide
 - ☐ B. Hydrochloric acid reacts with sodium hydroxide to form sodium chloride and water
 - ☐ C. Zinc displaces copper from copper sulfate solution
 - ☐ D. Calcium carbonate breaks down into calcium oxide and carbon dioxide

Q.57 Which of the following best describes a homogeneous mixture?

- Ans**
- ☐ A. A mixture where particles settle at the bottom
 - ☒ B. A mixture with uniform composition throughout
 - ☐ C. A mixture with visible separate layers
 - ☐ D. A mixture where substances can be separated by a filter

Q.58 In a chemical reaction, 50 grams of calcium carbonate is heated to produce 28 grams of calcium oxide and an unknown mass of carbon dioxide. According to the law of conservation of mass, what is the mass of carbon dioxide produced?

- Ans**
- ☐ A. 24 grams
 - ☐ B. 18 grams
 - ☐ C. 20 grams
 - ☒ D. 22 grams

Q.59 Which of the following is the main role of hydrochloric acid (HCl) in the stomach?

- Ans**
- ☐ A. Breaks down fats directly
 - ☐ B. Absorbs digested nutrients
 - ☐ C. Produces bile for digestion
 - ☒ D. Creates acidic conditions

Q.60 An engineer is designing a device that requires a precise and constant temperature to incubate bacterial cultures. Which principle should primarily guide the choice of the heating element for this device, considering the applications of the heating effect of current?

- Ans**
- ☐ A. Using a material that prevents heat production during operation
 - ☐ B. Using a material with low resistance to minimize heat production
 - ☐ C. Increasing the current continuously to produce maximum heat
 - ☒ D. Using a material with suitable resistance to produce sufficient heat

Q.61 Soil fertility would decline if fungi were removed from an ecosystem as:

- Ans**
- ☒ A. The breakdown of dead matter would slow, reducing mineral availability
 - ☐ B. Plants would be unable to perform photosynthesis due to absence of fungi
 - ☐ C. Predators would experience reduced food availability in the ecosystem
 - ☐ D. Fungi directly supply nutrients to living plants through absorption processes

Q.62 A body of mass 2 kg kept at the top of a building of height 10 m possess a potential energy of 200 J. What will be the kinetic energy of this body when it hits the ground? (Neglect air resistance)

- Ans**
- ☒ A. 400 J
 - ☒ B. 200 J
 - ☒ C. 50 J
 - ☒ D. 100 J

Q.63 Which of the following explains the importance of meiosis for maintaining chromosome number across generations?

- Ans**
- ☒ A. It doubles chromosome number to increase complexity
 - ☒ B. It halves the chromosome number in gametes before fertilization
 - ☒ C. It ensures all chromosomes are inherited from the mother only
 - ☒ D. It produces identical cells to preserve genetic continuity

Q.64 Which of the following best describes an ionic bond?

- Ans**
- ☒ A. A chemical bond formed by the transfer of electrons from one atom to another
 - ☒ B. A chemical bond formed by sharing electrons between atoms
 - ☒ C. A chemical bond formed by overlapping atomic orbitals
 - ☒ D. A chemical bond involving delocalized electrons in a metal

Q.65 Which of the following metals will not show any observable change when placed in cold water, based on their position in the reactivity series?

- Ans**
- ☒ A. Sodium
 - ☒ B. Magnesium
 - ☒ C. Zinc
 - ☒ D. Copper

Q.66 Which of the following element symbols is incorrect?

- Ans**
- ☒ A. Ag – Gold
 - ☒ B. Pb – Lead
 - ☒ C. Al – Aluminium
 - ☒ D. K – Potassium

Q.67 Which of the following statements about image formation by spherical mirrors is NOT correct?

- Ans**
- ☒ A. Convex mirrors always produce diminished images.
 - ☒ B. A concave mirror can also form a virtual image.
 - ☒ C. Concave mirrors can produce highly magnified real images.
 - ☒ D. A real image is always erect.

Q.68 Which of the following best describes Thomson's model of an atom?

- Ans**
- ☒ A. An atom has a central nucleus with electrons orbiting around it
 - ☒ B. An atom is a sphere of positive charge with electrons scattered within it
 - ☒ C. Electrons are arranged in shells around a nucleus in an atom
 - ☒ D. An atom is a dense nucleus with electrons moving outside it

Q.69 How can the strength of the magnetic field produced by a current-carrying circular loop be increased?

- Ans**
- ☒ A. By decreasing the number of turns in the loop.
 - ☒ B. By decreasing the current flowing through the loop.
 - ☒ C. By increasing the number of turns in the loop and increasing the current.
 - ☒ D. By increasing the radius of the loop.

Q.70 Which of the following experimental setups would help to determine effectivity of wind and insect pollination separately for a certain plant species?

- Ans**
- ☐ A. Cover all of the flowers completely to prevent any form of pollination from occurring.
 - ☐ B. Remove the reproductive stigmas from all of the flowers before pollination can take place.
 - ☐ C. Expose all of the flowers to both wind currents and insect pollinators at the same time.
 - ☒ D. Divide the flowers into two groups: one open to wind only, and one open to insects only.

Q.71 Which of the following organisms does NOT reproduce by budding?

- Ans**
- ☐ A. Sponge
 - ☐ B. Hydra
 - ☒ C. Bacteria
 - ☐ D. Yeast

Q.72 Which type of joint allows movement to straighten in one direction only and is found in the elbow bends of the human body?

- Ans**
- ☐ A. Ball and socket joint
 - ☒ B. Hinge joint
 - ☐ C. Fixed joint
 - ☐ D. Pivot joint

Q.73 Which of the following methods is commonly used to prevent rancidity in oils and fats?

- Ans**
- ☒ A. Adding antioxidants like vitamin E or BHA
 - ☐ B. Heating the oil to boiling point
 - ☐ C. Exposing the oil to sunlight
 - ☐ D. Storing the oil in a transparent container

Q.74 Which of the following statements is/are NOT true about an object moving in uniform circular motion?

- A. The speed of the object remains constant.
- B. The velocity of the object remains constant.
- C. The direction of the object's velocity changes continuously.

- Ans**
- ☐ A. Both A and C
 - ☒ B. Only B
 - ☐ C. Both A and B
 - ☐ D. Only A

Q.75 A train's velocity-time graph shows a steady velocity of 24 m/s for 5 seconds, then a uniform decrease to 0 m/s over the next 4 seconds. What is the linear velocity at $t = 7$ s?

- Ans**
- ☒ A. 12 m/s
 - ☐ B. 6 m/s
 - ☐ C. 18 m/s
 - ☐ D. 24 m/s

Q.76 Plants have large vacuoles that store water, while animal cells have much smaller vacuoles. If scientists want to develop crops that can survive longer during drought, which method would be most useful?

- Ans**
- ☐ A. Reduce the amount of water stored in plant vacuoles.
 - ☐ B. Remove vacuoles from plant cells to make them lighter.
 - ☒ C. Increase the size of plant vacuoles so they can store more water.
 - ☐ D. Make plant cells have many small vacuoles like animal cells.

Q.77 If two houses—one made of concrete and one made of wood—are exposed to the same sunlight, which is most likely to remain warmer at night?

- Ans
- ☐ A. The concrete house, because it reflects all sunlight
 - ☐ B. The wooden house, because it absorbs more sunlight
 - ☒ C. The concrete house, because it releases stored heat slowly
 - ☐ D. The wooden house, because of excessive re-radiation

Q.78 A shipping company needs to ensure their iron cargo ships are protected from corrosion during long voyages through salty ocean water. Which strategy would be most effective for preventing corrosion for this purpose?

- Ans
- ☐ A. Painting the hull with ordinary paint
 - ☐ B. Using pure iron sheets for construction
 - ☐ C. Storing ships in dry air when not in use
 - ☒ D. Attaching zinc blocks to the ship's hull as sacrificial anodes

Q.79 During the oxidation of copper, its surface acquires a black coloured coating due to the formation of which of the following compounds?

- Ans
- ☐ A. Copper sulphate
 - ☒ B. Copper oxide
 - ☐ C. Copper carbonate
 - ☐ D. Copper sulphide

Q.80 Which feature best describes the orientation and size of the image produced by a convex mirror for any object position?

- Ans
- ☐ A. The image is always inverted and smaller than the object
 - ☐ B. The image is sometimes erect and larger than the object
 - ☒ C. The image is always erect and smaller than the object
 - ☐ D. The image is always inverted and the same size as the object

Q.81 Which statement explains how muscle and bone tissues work together in the human musculoskeletal system?

- Ans
- ☐ A. Muscle tissues create cartilage to cushion bones during motion.
 - ☐ B. Muscle tissues produce minerals to strengthen bones for support.
 - ☐ C. Bone tissues contract to move muscles, enabling walking.
 - ☒ D. Muscle tissues contract to pull on bones, causing movement at joints.

Q.82 Why is reverberation time significantly longer in a large empty classroom than in a fully furnished library of the same size?

- Ans
- ☐ A. The classroom has dark coloured walls
 - ☒ B. The classroom has fewer sound-absorbing surfaces compared to the library
 - ☐ C. The classroom has a higher air temperature than the library
 - ☐ D. The classroom uses a different type of sound source

Q.83 How does latitude affect the amount of solar energy a location receives on Earth?

- Ans
- ☐ A. All locations receive the same amount of sunlight year-round
 - ☐ B. Latitude has negligible effect on the solar energy received
 - ☐ C. Equatorial latitudes receive less direct sunlight than higher latitudes
 - ☒ D. Higher latitudes receive less direct sunlight than equatorial latitudes

Q.84 A patient has a heart condition in which the left ventricle pumps blood inefficiently. What is the most immediate effect on the body's transport system?

- Ans**
- ☐ A. Elevated resting heart rate throughout the body
 - ☐ B. Immediate buildup of carbon dioxide in tissues
 - ☐ C. Blood pressure in major veins instantly increases
 - ☒ D. Reduced oxygen delivery to body tissues

Q.85 Which element contains only one proton and one neutron among the following?

- Ans**
- ☐ A. Helium
 - ☐ B. Tritium
 - ☐ C. Protium
 - ☒ D. Deuterium

Q.86 A stationary box remains unmoved on the floor even when equal forces are applied from opposite sides. Which feature of the forces best explains this outcome?

- Ans**
- ☐ A. Forces are acting at different points
 - ☐ B. Both forces are unbalanced in direction
 - ☐ C. Both forces are unequal in magnitude
 - ☒ D. Both forces are equal in magnitude and opposite in direction.

Q.87 In an ecosystem, organisms that can prepare their own food using sunlight are known as _____.

- Ans**
- ☒ A. Producers
 - ☐ B. Herbivores
 - ☐ C. Carnivores
 - ☐ D. Decomposers

Q.88 The resistance of an electrical appliance is 10 Ω . What will be the power of the appliance, when a potential difference of 110 V is applied across it?

- Ans**
- ☐ A. 121 W
 - ☐ B. 110 W
 - ☐ C. 11 W
 - ☒ D. 1,210 W

Q.89 If an image formed by a spherical mirror is real and inverted, which of the following correctly describes the sign of the image distance according to the sign convention?

- Ans**
- ☒ A. Image distance is negative
 - ☐ B. Image distance is positive
 - ☐ C. Image distance is zero
 - ☐ D. Image distance is variable

Q.90 Which method is commonly used to separate particles from a heterogeneous mixture after coagulation has taken place?

- Ans**
- ☐ A. Distillation
 - ☐ B. Decantation
 - ☒ C. Filtration
 - ☐ D. Evaporation

Section : General Awareness

- Q.91** Which scheme was launched by the Employees' Provident Fund Organisation (EPFO) in July 2026 to facilitate the amicable settlement of damages and penalty-related disputes?
- Ans** ☒ A. SAMADHAN, 2026
☒ B. SURAKSHA, 2026
☒ C. VISHWAS, 2026
☒ D. NISHTHA, 2026
- Q.92** Which Act, enacted in 2025, replaced MGNREGA with a new statutory framework aligned with the Viksit Bharat 2047 vision, enhanced employment guarantee to 125 days per rural household, and linked wage employment with durable rural infrastructure?
- Ans** ☒ A. Pradhan Mantri Gram Sadak Yojana (revised rural infrastructure mandate)
☒ B. National Rural Infrastructure Development Act, 2025
☒ C. Viksit Bharat–GRAM G Act, 2025
☒ D. Deendayal Antyodaya Yojana – National Rural Livelihoods Mission
- Q.93** Which of the following organisations released the report titled “State of India’s Environment 2026”, in collaboration with Down To Earth, highlighting increasing climate risks and extreme weather events in the country?
- Ans** ☒ A. World Bank
☒ B. NITI Aayog
☒ C. Centre for Science and Environment
☒ D. Ministry of Environment, Forest and Climate Change
- Q.94** Which of the following was the theme of the 12th International Day of Yoga (IDY) observed on June 21, 2026?
- Ans** ☒ A. Yoga for One Earth, One Health
☒ B. Yoga for Healthy Ageing
☒ C. Yoga for Humanity and Global Harmony
☒ D. Yoga for Sustainable Living and Wellness
- Q.95** In February 2026, which organisation successfully demonstrated the Solid Fuel Ducted Ramjet (SFDR) technology from the Integrated Test Range (ITR), Chandipur?
- Ans** ☒ A. Defence Research and Development Organisation (DRDO)
☒ B. Bharat Dynamics Limited (BDL)
☒ C. Indian Space Research Organisation (ISRO)
☒ D. Hindustan Aeronautics Limited (HAL)
- Q.96** What is the main purpose of the Security and Defence Partnership signed between India and the EU in January 2026?
- Ans** ☒ A. To promote only maritime trade between India and the EU
☒ B. To establish a framework for cooperation on peace, security, and defence
☒ C. To organize annual defence exhibitions
☒ D. To focus exclusively on space technology research
- Q.97** Which of the following is NOT a purpose of the Electronic Gold Receipts (EGRs) launched by the National Stock Exchange of India in May 2026?
- Ans** ☒ A. To improve market participation, and enhance the trust across stakeholders
☒ B. To encourage and reward investors to replace digital assets with physical gold
☒ C. To strengthen transparency and formalisation in the gold market
☒ D. To enable investors to own physical gold without the need to store it at home or in a bank locker

Q.98 As per 2026 reports on Mission Buniyaad in Haryana, which district secured the third rank at the state level with approximately 1,600 students qualifying for the next stage?

- Ans**
- ☒ A. Hisar
 - ☒ B. Gurgaon
 - ☒ C. Rohtak
 - ☒ D. Sirsa

Q.99 At the National Inter State Senior Athletics Championships 2026, held in June 2026, who won the men's javelin throw title with a personal best of 87.05 metres?

- Ans**
- ☒ A. Rohit Yadav
 - ☒ B. Neeraj Chopra
 - ☒ C. Ramesh Tharanga
 - ☒ D. Murali Sreeshankar

Q.100 Which of the following personalities was announced as a Padma Bhushan awardee in 2026 for contributions to the field of art?

- Ans**
- ☒ A. Alka Yagnik
 - ☒ B. V S Achuthanandan
 - ☒ C. Dharmendra Singh Deol
 - ☒ D. K. T. Thomas



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CEN 02/2026 - Technician Grade I Signal and Technician Grade III



Test Date	08/10/2026
Test Time	9:00 AM - 10:30 AM
Subject	RRB Technician Grade III

*** Note**

Correct Answer will carry 1 mark per Question.

Incorrect Answer will carry 1/3 Negative mark per Question.

1. Options shown in green color with a tick icon are correct.

2. Chosen option on the right of the question indicates the option selected by the candidate.

Section : Mathematics

Q.1 Rahul sold a wristwatch for ₹2,100 at a loss of 25%. At what price should it be sold for Rahul to make a profit of 30%?

- Ans
- ☒ A. ₹3,040
 - ☒ B. ₹3,240
 - ☒ C. ₹3,640
 - ☒ D. ₹3,540

Q.2 The mode of a dataset is 25. Which of the following datasets has 25 as the unique mode?

- Ans
- ☒ A. 15, 25, 25, 25, 28, 28, 30, 32, 35
 - ☒ B. 18, 20, 22, 24, 26, 28, 30, 32, 34
 - ☒ C. 18, 20, 22, 25, 25, 28, 30, 30, 32
 - ☒ D. 20, 22, 25, 25, 27, 27, 30, 30, 32

Q.3 Neha took a loan of ₹10,000 at an interest rate of 10% per annum, compounded half yearly. If the total amount she has to repay is ₹11,025, for how long did she take the loan?

- Ans
- ☒ A. 6 months
 - ☒ B. 1 year
 - ☒ C. 1.5 years
 - ☒ D. 2 years

Q.4 The mean of a distribution is 72, and the mean exceeds the mode by 12. In this distribution, the value (Mean - Median) is one-third of (Mean - Mode). Find the median.

- Ans
- ☒ A. 68
 - ☒ B. 72
 - ☒ C. 66
 - ☒ D. 70

Q.5 Rohit bought a laptop for ₹30,000. He sold it to Aman at a profit of 20%. Aman sold it to Suresh at a loss of 10%. At what price did Suresh buy the laptop?

- Ans
- ☒ A. ₹31,600
 - ☒ B. ₹32,400
 - ☒ C. ₹33,500
 - ☒ D. ₹30,000

Q.6 A can complete a piece of work in 12 days and B can complete the same work in 18 days. They start working together. After 4 days, A leaves the work. In how many more days will B finish the remaining work?

- Ans**
- ☐ A. 6
 - ☐ B. 9
 - ☒ C. 8
 - ☐ D. 4

Q.7 If two parallel lines are cut by a transversal, then which of the following is true?

- Ans**
- ☐ A. Alternate interior angles are always supplementary.
 - ☐ B. Alternate interior angles are always complimentary.
 - ☐ C. Difference in alternate interior angles is 60° .
 - ☒ D. Alternate interior angles are congruent.

Q.8 AB is parallel to CD. A transversal PQ intersects AB and CD at E and F, respectively, and $\angle PEB = 75^\circ$. G is a point between AB and CD such that $\angle BEG = 45^\circ$ and $\angle GFE = 19^\circ$. What is the measure of $\angle EGF$?

- Ans**
- ☐ A. 102°
 - ☒ B. 101°
 - ☐ C. 110°
 - ☐ D. 104°

Q.9 The curved surface area of a right circular cone is 3960 cm^2 . If the height is $9\sqrt{39} \text{ cm}$ and its slant height is 60 cm, then what is the volume of the cone? (Use $\pi = \frac{22}{7}$)

- Ans**
- ☐ A. $4134\sqrt{39} \text{ cm}^3$
 - ☐ B. $4194\sqrt{39} \text{ cm}^3$
 - ☒ C. $4158\sqrt{39} \text{ cm}^3$
 - ☐ D. $4112\sqrt{39} \text{ cm}^3$

Q.10 If $\sin^4 x - \cos^4 x = \frac{1}{5}$, then the value of $2\sin^2 x - 1$ is:

- Ans**
- ☐ A. $\frac{1}{3}$
 - ☒ B. $\frac{1}{5}$
 - ☐ C. $\frac{1}{4}$
 - ☐ D. $\frac{1}{2}$

Q.11 A mixture contains two types of solution P and Q in the ratio of 4 : 5. If 10 litres of solution P and 11 litres of solution Q is added to the mixture, the ratio becomes 5 : 6. Select the correct statement from the following options.

- Ans**
- ☐ A. Total initial quantity of mixture is 54 litres
 - ☒ B. Initial quantity of solution Q is 25 litres
 - ☐ C. Quantity of solution P after addition is 35 litres
 - ☐ D. Total quantity of mixture after addition is 77 litres

Q.12 A city's population decreases by 15% in the first year and by another 10% in the second year. In the third and fourth years, new development causes the population to grow by a constant rate of $y\%$ per year. If the population of the city, at the end of four years is 92.565% of the original size, what is the value of y ?

- Ans**
- ☒ A. 15
 - ☒ B. 10
 - ☒ C. 20
 - ☒ D. 5

Q.13 If 20% of k is 10 less than 3600% of 25, then k is:

- Ans**
- ☒ A. 4490
 - ☒ B. 4430
 - ☒ C. 4450
 - ☒ D. 4410

Q.14 How many cubes of side 2 cm can be cut from a cuboid of dimensions $8\text{ cm} \times 6\text{ cm} \times 4\text{ cm}$?

- Ans**
- ☒ A. 30
 - ☒ B. 26
 - ☒ C. 24
 - ☒ D. 22

Q.15 2 times the present age of Renu is 14 years more than 4 times the present age of Manav, and 5 times the present age of Manav is 9 years less than 2 times the present age of Renu. The sum of the present ages (in years) of Renu and Manav is:

- Ans**
- ☒ A. 18
 - ☒ B. 22
 - ☒ C. 27
 - ☒ D. 20

Q.16 A man has invested ₹57500 at a rate of 10% per annum simple interest for 3 years. Find the amount (in ₹) that he will receive after 3 years.

- Ans**
- ☒ A. 75750
 - ☒ B. 18250
 - ☒ C. 17250
 - ☒ D. 74750

Q.17 A is a prime number. It is given that $\text{LCM}(A, 30) = 210$. What is the value of A ?

- Ans**
- ☒ A. 10
 - ☒ B. 7
 - ☒ C. 8
 - ☒ D. 9

Q.18 A retailer offers three successive discounts of 10%, 15%, and 20% on an article marked at ₹25,000. What is the final selling price?

- Ans**
- ☒ A. ₹18,500
 - ☒ B. ₹15,300
 - ☒ C. ₹16,400
 - ☒ D. ₹12,500

Q.19 The sum of the present ages of Stan and Benedict is 41 years. Four years ago, Benedict's age was half of Stan's age at that time. What is Stan's present age (in years)?

- Ans
- ☐ A. 30
 - ☐ B. 33
 - ☐ C. 36
 - ☒ D. 26

Q.20 The average sale of cars by a dealer per day in the month of March, other than on Saturdays and Sundays, is 125. The average sale of cars per day on Sundays is 116. What is the average sale of cars per day on Saturdays, if the first Saturday is on the 3rd of March and average sale of cars per day for the whole month is 174?

- Ans
- ☐ A. 441
 - ☒ B. 436
 - ☐ C. 433
 - ☐ D. 431

Q.21 The ratio of three numbers is 2 : 3 : 5 and their sum is 200. What is the value of the largest number?

- Ans
- ☐ A. 120
 - ☒ B. 100
 - ☐ C. 80
 - ☐ D. 90

Q.22 Rohit travels 30 km at 60 km/hr, the next 40 km at 80 km/hr and the last 30 km at 30 km/hr. What is the average speed for the entire journey?

- Ans
- ☐ A. 48 km/hr
 - ☒ B. 50 km/hr
 - ☐ C. 55 km/hr
 - ☐ D. 52 km/hr

Q.23 In a 2340 m circular race, Siddharth finishes one round in 30 seconds and Yash finishes one round in 60 seconds. How many different meeting points are there on circumference if they are running in a same direction?

- Ans
- ☐ A. 3
 - ☐ B. 2
 - ☐ C. 4
 - ☒ D. 1

Q.24 Two pipes X and Y can fill a tank with water in $5\frac{1}{3}$ hours and 24 hours can empty it in 8 hours. If the pipes X and Y be opened at 11:30 a.m. pipe Z is opened at 1:30 p.m., the tank will be filled at:

- Ans
- ☐ A. 6:46 p.m.
 - ☐ B. 6:36 p.m.
 - ☒ C. 7:06 p.m.
 - ☐ D. 6:56 p.m.

Q.25 Which of the following numbers is divisible by 11?

- Ans
- ☐ A. 2356
 - ☐ B. 2143
 - ☒ C. 2728
 - ☐ D. 2880

Q.26 What should come in place of the question mark (?) in the given series?

7 14 21 28 35 ?

- Ans
- ☒ A. 40
 - ☒ B. 42
 - ☒ C. 41
 - ☒ D. 43

Q.27 What will come in the place of '?' in the following equation, if '+' and '-' are interchanged and 'x' and '÷' are interchanged?

$38 \times 19 \div 4 - 48 + 31 = ?$

- Ans
- ☒ A. 25
 - ☒ B. 23
 - ☒ C. 26
 - ☒ D. 27

Q.28 If 'A' stands for '+', 'B' stands for '-', 'C' stands for 'x', and 'D' stands for '÷', what will come in place of the question mark (?) in the following equation?

91 D 7 A 6 C 5 B 17 = ?

- Ans
- ☒ A. 24
 - ☒ B. 26
 - ☒ C. 22
 - ☒ D. 28

Q.29 Refer to the following letter series and answer the question.

(Left) H B G V I Z O R F D W O U T D S W Q A L M F T (Right)

How many letters are there in the English alphabetical series between the letter which is sixth from the right end and fourth from the left end of the series?

- Ans
- ☒ A. Six
 - ☒ B. Three
 - ☒ C. Five
 - ☒ D. Four

Q.30 In a certain code language, 'SALT' is coded as '1739' and 'TALK' is coded as '7159'. What is the code for 'K' in that language?

- Ans
- ☒ A. 7
 - ☒ B. 5
 - ☒ C. 9
 - ☒ D. 3

Q.31 What will come in the place of '?' in the following equation, if '+' and '÷' are interchanged and '-' and 'x' are interchanged?

$168 + 42 \times 14 - 9 \div 207 = ?$

- Ans
- ☒ A. 77
 - ☒ B. 72
 - ☒ C. 85
 - ☒ D. 81

Q.32 What should come in place of ? in the given series based on the English alphabetical order?

ACE, BDF, CEG, DFH, ?

Ans ✓ A. EGI

✗ B. EFI

✗ C. FHI

✗ D. EHG

Q.33 D is the father of H. H is the brother of C. Y is the father of T. T is the son of C. How is D related to Y?

Ans ✗ A. Father

✓ B. Wife's father

✗ C. Brother

✗ D. Wife's brother

Q.34 A, B, C, D, E, F and G are sitting in a row, facing north. B sits third to the right of F. E sits second to the right of B. Only two people sit between E and A. D sits third to the left of G. C sits at some place to the left of G. How many people sit between C and G?

Ans ✗ A. Two

✗ B. Three

✓ C. More than three

✗ D. One

Q.35 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.

WYC-DFJ

GIM-NPT

Ans ✗ A. VWZ-CEI

✗ B. VWZ-BDH

✗ C. VXB-BEH

✓ D. VXB-CEI

Q.36 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 letter-cluster 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.)

Ans ✗ A. OS - EV

✗ B. YC - OF

✗ C. DH - TK

✓ D. MO - CT

Q.37 In this question, a question is followed by two statements numbered (I) and (II). You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and decide the appropriate answer.

Q. Among L, M, N, O, and P, who is the second tallest?

(I) M is taller than L and N but shorter than O.

(II) P is taller than O.

Ans ✗ A. Data in Statement I alone is sufficient to answer the question while data in statement II is not

✗ B. Data in Statement II alone is sufficient to answer the question while data in statement I is not

✓ C. Both statements I and II together (and not statement 1 alone or statement 2 alone) are sufficient to answer the question.

✗ D. Both statements I and II together are NOT sufficient to answer the question

Q.38 RTNG is related to WQSD in a certain way based on the English alphabetical order. In the same way, BNXA is related to GKCX. To which of the given options is LHHU related to, following the same logic?

- Ans**
- ☒ A. PFLR
 - ☒ B. RFNQ
 - ☒ C. QEMR
 - ☒ D. PDMS

Q.39 In a certain code language, 'base wet ivy' is coded as 'cg au zm' and 'child base data' is coded as 'au jl gs'. How is 'base' coded in the given language?

- Ans**
- ☒ A. cg
 - ☒ B. au
 - ☒ C. jl
 - ☒ D. zm

Q.40 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.)

- Ans**
- ☒ A. XVR
 - ☒ B. WUQ
 - ☒ C. YXS
 - ☒ D. DBX

Q.41 P, Q, R, S, T, U and V live on seven different floors of the same building. The lowermost floor in the building is numbered 1, the floor above it, number 2 and so on till the topmost floor is numbered 7. Only four people live between T and V. T lives on an odd numbered floor. Only two people live between V and R. S lives on an odd numbered floor immediately below Q. P lives on an even numbered floor. On which floor number does U live?

- Ans**
- ☒ A. 4
 - ☒ B. 5
 - ☒ C. 3
 - ☒ D. 1

Q.42 Each vowel in the word COLLEGE is changed to the letter immediately following 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 will be second from the right in the new group of letters thus formed?

- Ans**
- ☒ A. E
 - ☒ B. F
 - ☒ C. G
 - ☒ D. H

Q.43 The position(s) of how many letters will remain unchanged if each letter in the word PROBLEM is arranged in the English alphabetical order?

- Ans**
- ☒ A. Two
 - ☒ B. Three
 - ☒ C. None
 - ☒ D. One

- Q.44** In this question, a group of numbers/symbols is coded using letter codes as per the codes given below and the conditions which follow. The correct combination of codes following the conditions is your answer. If none of the conditions follow, then codes for the respective numbers/symbols to be followed directly as given in the table.

Number/Symbol 3 + % 8 \$ 1 ^ 6 = 5

Code QT WBDGJ M P S

Conditions:

- (i) If the first element is a symbol and the last a number, the codes for these two (the first and the last elements) are to be interchanged.
- (ii) If the first element is an odd number and the last an even number, the first and last elements are to be coded as ©
- (iii) If both second and third elements are perfect squares, the third element is to be coded as the code for the third element.

1 % 5 + 6

- Ans**
- ☒ A. G S S T ©
 - ☒ B. G W S T M
 - ☒ C. © W S T ©
 - ☒ D. © W W T M

- Q.45** What should come in place of '?' in the given series?

3 3 6 18 72 ?

- Ans**
- ☒ A. 272
 - ☒ B. 256
 - ☒ C. 360
 - ☒ D. 368

- Q.46** Seven boxes, A, B, C, D, E, F and G, are kept one over the other but not necessarily in the same order. Only four boxes are kept between B and A. Only F is kept above B. Only two boxes are kept between G and C. D is kept immediately above E. C is not kept immediately above D. How many boxes are kept below E?

- Ans**
- ☒ A. 4
 - ☒ B. 1
 - ☒ C. 2
 - ☒ D. 3

- Q.47** 113 is related to 138 following a certain logic. Following the same logic, 146 is related to 171. To which of the following is 153 related, following the same logic?
(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.)

- Ans**
- ☒ A. 164
 - ☒ B. 194
 - ☒ C. 178
 - ☒ D. 186

Q.48 In this question, a question is followed by two statements numbered (I) and (II). You have to decide whether the data provided in the statements is sufficient to answer the question. Read both the statements and decide the appropriate answer.

Among 5 trees, H, K, T, W and X, each of different heights, which tree is the tallest?

(I) T is shorter than only two trees. X is taller than T.

(II) W is taller than X.

- Ans**
- ☒ A. Both Statements I and II together (and not Statement I alone or Statement II alone) are sufficient to answer the question
 - ☐ B. Data in Statement I alone is sufficient to answer the question while data in Statement II is not
 - ☐ C. Both Statements I and II together are NOT sufficient to answer the question
 - ☐ D. Data in Statement II alone is sufficient to answer the question while data in Statement I is not

Q.49 Refer to the following letter, symbol series and answer the question. Counting to be done from left to right only.

(Left) F & I T @ J Y C * A # U K L P \$ B M (Right)

How many such symbols are there each of which is immediately preceded by a vowel but not immediately followed by a consonant?

- Ans**
- ☐ A. None
 - ☐ B. Two
 - ☐ C. Three
 - ☒ D. One

Q.50 Mr. Riek starts from Point A and walks 18 km towards North. He then takes a right turn, walks 9 km, turns right and walks 23 km. He then takes a right turn and walks 14 km. He takes a final right turn, walks 5 km and stops at Point P. How far (shortest distance) and towards which direction should he walk in order to reach Point A again? (All turns are 90 degrees turns only unless specified)

- Ans**
- ☐ A. 7 km to the west
 - ☐ B. 4 km to the south
 - ☒ C. 5 km to the east
 - ☐ D. 8 km to the north

Section : General Science

Q.51 The binomial system helps scientists when collaborating internationally on biodiversity research as:

- Ans**
- ☒ A. It provides one universal scientific name.
 - ☐ B. It translates names into local languages.
 - ☐ C. It promotes learning regional languages.
 - ☐ D. It uses the most common local name.

Q.52 Which statement best describes a neutron in the structure of an atom?

- Ans**
- ☒ A. A neutron is a neutral particle found in the nucleus of an atom.
 - ☐ B. A neutron is a neutral particle orbiting the nucleus.
 - ☐ C. A neutron is a positively charged particle in the nucleus.
 - ☐ D. A neutron is a negatively charged particle orbiting the nucleus.

Q.53 A student prepares solutions of the following salts: NaCl, NH₄Cl, Na₂CO₃, CH₃COONa. He observes that two of them have pH > 7. Which two salts are they?

- Ans**
- ☐ A. NaCl and NH₄Cl
 - ☐ B. NH₄Cl and CH₃COONa
 - ☐ C. NaCl and Na₂CO₃
 - ☒ D. Na₂CO₃ and CH₃COONa

- Q.54** A student places an object 30 cm in front of a convex lens of focal length 10 cm. Using the lens formula, which value correctly represents the image distance produced by the lens?
- Ans**
- ☐ A. -10 cm on the opposite side of the object
 - ☐ B. 20 cm on the same side as the object
 - ☐ C. 10 cm on the same side as the object
 - ☒ D. 15 cm on the opposite side of the object
- Q.55** Which plant tissue is mainly responsible for transporting the products of photosynthesis from leaves to other parts of the plant?
- Ans**
- ☐ A. Cortex
 - ☐ B. Epidermis
 - ☐ C. Xylem
 - ☒ D. Phloem
- Q.56** Aerobic respiration mainly takes place in the _____.
- Ans**
- ☐ A. Ribosome
 - ☒ B. Mitochondria
 - ☐ C. Vacuole
 - ☐ D. Nucleus
- Q.57** Which type of animal tissue primarily functions to support, bind, or separate other tissues or organs?
- Ans**
- ☐ A. Epithelial tissue
 - ☐ B. Nervous tissue
 - ☐ C. Muscle tissue
 - ☒ D. Connective tissue
- Q.58** A boy fell down while playing and severely injured his knee, making it hard to walk. Which two connective tissues are mostly likely to be involved in this injury?
- Ans**
- ☐ A. Adipose tissue and Bone
 - ☐ B. Tendon and Blood
 - ☒ C. Ligament and Cartilage
 - ☐ D. Areolar tissue and Cartilage
- Q.59** A school auditorium has walls covered with thick curtains. When a student shouts, very little echo is heard compared to a similar auditorium with bare concrete walls. Which property of the curtains primarily explains this observation?
- Ans**
- ☐ A. Curtains increase the reflection of sound back to the source
 - ☒ B. Curtains absorb most of the sound energy, reducing reflection
 - ☐ C. Curtains increase the speed of sound in the auditorium
 - ☐ D. Curtains change the pitch of the reflected sound
- Q.60** What happens to the atomic radius when an atom loses an electron to become a cation?
- Ans**
- ☐ A. The atomic radius increases
 - ☒ B. The atomic radius decreases
 - ☐ C. The atomic radius becomes zero
 - ☐ D. The atomic radius remains the same
- Q.61** Which surface would reflect the most solar radiation based on its albedo?
- Ans**
- ☐ A. A grassy meadow
 - ☒ B. Snow-covered field
 - ☐ C. A sandy beach
 - ☐ D. Dark asphalt road

Q.62 The mass of an electron is approximately:

- Ans**
- ☐ A. same as neutron
 - ☐ B. double the proton
 - ☒ C. negligible compared to proton
 - ☐ D. equal to proton

Q.63 The area under a velocity–time graph for uniform acceleration is in the shape of a

- Ans**
- ☐ A. Rectangle only
 - ☒ B. Trapezium or triangle.
 - ☐ C. Triangle only
 - ☐ D. Circle

Q.64 Which process directly contributes to the release of oxygen into the atmosphere?

- Ans**
- ☒ A. Photosynthesis by plants and algae
 - ☐ B. Combustion of fossil fuels
 - ☐ C. Respiration by animals and plants
 - ☐ D. Decomposition of organic matter

Q.65 What does the slope of a velocity-time graph for a body moving with uniform acceleration represent?

- Ans**
- ☐ A. The initial position of the object
 - ☐ B. The final position of the object
 - ☐ C. The total distance covered by the object
 - ☒ D. The acceleration of the object

Q.66 A city is planned to replace a pond, grassland, and trees with a park featuring playground equipment, shrubs, and paved paths. Which of the following consequences best reflects the impact on the local ecosystem?

- Ans**
- ☐ A. Increased plant diversity compensating for habitat loss
 - ☒ B. Loss of aquatic habitat leading to reduced biodiversity in the area
 - ☐ C. Improvement of ecological balance due to human activity
 - ☐ D. Complete removal of all animal species from the area

Q.67 Which of the following practices helps in preventing rancidity in food items?

- Ans**
- ☒ A. Keeping food in airtight containers
 - ☐ B. Exposing food to sunlight
 - ☐ C. Adding water to the food
 - ☐ D. Storing food in humid places

Q.68 How does the direction of the applied force relative to the object's motion affect the amount of work done?

- Ans**
- ☐ A. Work is always zero if the object moves in the same direction as the force.
 - ☐ B. Work depends only on the amount of force applied, regardless of its direction.
 - ☒ C. Work is maximum when the force is applied in the same direction as the motion.
 - ☐ D. Work is maximum when the force is applied perpendicular to the direction of motion.

- Q.69** Two circuits have the same voltage source. The first has resistance R with current I_1 , while the second has twice the resistance of the first with current I_2 . Find the ratio of the current (I_1/I_2) in the two circuits.
- Ans** ☒ A. $1/4$
☒ B. 2
☒ C. $1/2$
☒ D. 1
- Q.70** If a scientist writes the name of a species as *Panthera leo* in a printed article without using italics, which rule of scientific naming is violated?
- Ans** ☒ A. The species name is capitalized
☒ B. The name is not italicized
☒ C. The genus comes after the species
☒ D. The genus is in lowercase letters
- Q.71** Which of the following is NOT a function of the male reproductive system?
- Ans** ☒ A. Production of testosterone hormone
☒ B. Secretion of milk for offspring
☒ C. Transport of sperm cells
☒ D. Production of sperm cells
- Q.72** Two parallel, straight wires carry equal currents in opposite directions. If the magnetic fields produced by the two wires are equal in magnitude and opposite in direction at a point, what is the resultant magnetic field at that point?
- Ans** ☒ A. Unchanged
☒ B. Doubled
☒ C. Half the original field
☒ D. Zero
- Q.73** Which of the following best describes the sign of the radius of curvature for a concave mirror, as per the sign convention?
- Ans** ☒ A. Zero
☒ B. Negative
☒ C. Positive
☒ D. Not assigned
- Q.74** A body moves with a uniform speed and its distance-time graph is a straight line from (0 s, 0 m) to (15 s, 45 m). If the body continues at the same rate, what distance will it cover at 20 s?
- Ans** ☒ A. 50 m
☒ B. 75 m
☒ C. 65 m
☒ D. 60 m
- Q.75** According to Rutherford's model of the atom, where are most of the atom's mass and positive charge concentrated?
- Ans** ☒ A. Evenly distributed in empty space
☒ B. In the electron cloud surrounding the nucleus
☒ C. In a small, dense nucleus at the center
☒ D. Spread throughout the entire atom

- Q.76** A student wants to design an experiment to demonstrate a combination reaction using common laboratory chemicals. Which of the following setups best fulfills this purpose while ensuring safety and clear observation?
- Ans**
- ☒ A. Mixing lead(II) nitrate solution with potassium iodide solution and observing a yellow solid
 - ☒ B. Mixing sodium chloride solution with silver nitrate solution and observing a white precipitate
 - ☒ C. Adding hydrochloric acid to calcium carbonate and collecting the gas produced
 - ☒ D. Mixing iron filings with sulfur powder and heating them in a test tube until a black solid forms
- Q.77** Where does the developing embryo in most mammals receive its nourishment?
- Ans**
- ☒ A. Egg yolk
 - ☒ B. Egg shell
 - ☒ C. Surrounding water
 - ☒ D. Mother's body
- Q.78** Which of the following is the typical duration of menstrual cycle in human females?
- Ans**
- ☒ A. Around 60 days
 - ☒ B. Around 7 days
 - ☒ C. Around 28 days
 - ☒ D. Around 14 days
- Q.79** When you're standing in a bus and it suddenly starts moving forward, you tend to fall backward. What is the reason for this?
- Ans**
- ☒ A. Because your upper body resists the motion due to inertia
 - ☒ B. Due to friction between your shoes and the bus floor
 - ☒ C. Because your upper body does not resist the motion
 - ☒ D. Because your body tries to move faster than the bus
- Q.80** A cart of mass 6 kg is acted upon by a forward force of 8 N and a backward force of 5 N simultaneously. What is the magnitude of its net acceleration?
- Ans**
- ☒ A. 1.3 m/s^2
 - ☒ B. 0.8 m/s^2
 - ☒ C. 2.2 m/s^2
 - ☒ D. 0.5 m/s^2
- Q.81** Which of the following statements describes why metals like gold are found in a free state in nature, while metals like sodium are not?
- Ans**
- ☒ A. Gold is less reactive and does not combine easily with other elements
 - ☒ B. Gold is softer and is therefore found in pure form
 - ☒ C. Gold has a higher density than most metals
 - ☒ D. Gold melts at a lower temperature than other metals
- Q.82** A laboratory technician needs to separate a mixture containing ammonium chloride, sand, and salt. Which sequence of methods should be used to obtain pure ammonium chloride from this heterogeneous mixture?
- Ans**
- ☒ A. Heat to sublime ammonium chloride, then condense the vapour
 - ☒ B. Use filtration followed by magnetic separation
 - ☒ C. Add water, filter to remove sand, then use chromatography
 - ☒ D. Dissolve the mixture in water, filter, then evaporate water

Q.83 A 60-watt bulb is left on for 2 seconds. What does the 'watt' indicate in this context?

- Ans
- ☐ A. The voltage required by the bulb
 - ☐ B. The total energy used by the bulb
 - ☒ C. The rate at which the bulb uses energy
 - ☐ D. The brightness of the bulb

Q.84 Which of the following situations best illustrates the use of infrasonic waves in real life?

- Ans
- ☐ A. Bats using sound to navigate
 - ☒ B. Monitoring earthquakes using seismic waves
 - ☐ C. Ultrasound imaging in hospitals
 - ☐ D. People talking to each other

Q.85 Which of the following is a characteristic of a saturated carbon compound?

- Ans
- ☐ A. It contains only double bonds between carbon atoms.
 - ☐ B. It contains alternating single and double bonds between carbon atoms.
 - ☐ C. It contains both single and triple bonds between carbon atoms.
 - ☒ D. It contains only single bonds between carbon atoms.

Q.86 Which of the following statements describes why sugar dissolves in water to form a solution?

- Ans
- ☒ A. Sugar molecules interact with water molecules, allowing them to separate and spread evenly.
 - ☐ B. Sugar sinks and remains at the bottom when enough water is present.
 - ☐ C. Sugar forms a suspension in water, remaining undissolved but visible.
 - ☐ D. Water chemically changes sugar into a new substance during mixing.

Q.87 Which one of the following is a property of a suspension?

- Ans
- ☐ A. The mixture is homogeneous and uniform throughout.
 - ☒ B. The particles scatter light and are visible to the naked eye.
 - ☐ C. The particles do not settle down even after some time.
 - ☐ D. The particles pass easily through filter paper.

Q.88 If the magnification produced by a convex lens is +1, then the image formed is:

- Ans
- ☐ A. Real, same size, on the opposite side of lens
 - ☐ B. Virtual, magnified, on the same side of lens
 - ☐ C. Real, magnified, on the opposite side of lens
 - ☒ D. Virtual, same size, on the same side of lens

Q.89 For acids, which of the following ions is responsible for their acidic behavior in solution?

- Ans
- ☐ A. hydroxyl ion
 - ☒ B. hydrogen ion
 - ☐ C. carbonate ion
 - ☐ D. sulphate ion

Q.90 A doctor is assessing two patients: one with high systolic blood pressure and another with high diastolic blood pressure. If these conditions remain untreated, what is the most likely outcome?

- Ans
- ☐ A. Only the high-diastolic patient will develop headaches
 - ☐ B. Only the high-systolic patient will develop kidney problems
 - ☐ C. Blood pressure will return to normal on its own
 - ☒ D. Both are at risk of vessel and heart damage

Q.91 Which Indian state became the first to be officially declared "extreme poverty-free" on November 1, 2025?

- Ans**
- ☐ A. Himachal Pradesh
 - ☐ B. Karnataka
 - ☐ C. Tamil Nadu
 - ☒ D. Kerala

Q.92 In June 2026, DRDO's successful demonstration of a multi-layered Ballistic Missile Defence (BMD) system placed India among the elite group of nations capable of intercepting _____.

- Ans**
- ☐ A. Short-Range Ballistic Missiles (SRBMs)
 - ☐ B. Submarine-Launched Ballistic Missiles (SLBMs)
 - ☐ C. Medium-Range Ballistic Missiles (MRBMs)
 - ☒ D. Intercontinental Ballistic Missiles (ICBMs)

Q.93 In April 2026, the Department for Promotion of Industry and Internal Trade (DPIIT) launched the BHAVYA Scheme to achieve which objective?

- Ans**
- ☐ A. Strengthen industrial credit for micro enterprises
 - ☐ B. Promote exports from coastal economic zones
 - ☒ C. Establish world-class plug-and-play industrial parks across India
 - ☐ D. Modernise public sector manufacturing units

Q.94 According to the Ministry of Statistics and Programme Implementation (MoSPI)'s "Press Note on New Series of GDP Estimates with Base Year 2022-23," released in February 2026, India's real GDP growth for FY 2025-26 was estimated at:

- Ans**
- ☒ A. 7.6%
 - ☐ B. 8.6%
 - ☐ C. 7.1%
 - ☐ D. 7.4%

Q.95 Which state has launched the Declaration on Online Safety of Children, along with two major cyber initiatives aimed at strengthening child protection and digital security capacities in October 2025?

- Ans**
- ☐ A. Rajasthan
 - ☐ B. West Bengal
 - ☒ C. Kerala
 - ☐ D. Tamil Nadu

Q.96 In May 2026, General N.S. Raja Subramani assumed charge as India's third Chief of Defence Staff (CDS), replacing whom?

- Ans**
- ☒ A. General Anil Chauhan
 - ☐ B. General Manoj Pande
 - ☐ C. General Bipin Rawat
 - ☐ D. General Upendra Dwivedi

Q.97 Who was reappointed as the Solicitor General of India with effect from 1 July 2026?

- Ans**
- ☐ A. K. M. Nataraj
 - ☐ B. Vikramjit Banerjee
 - ☐ C. R. Venkataramani
 - ☒ D. Tushar Mehta

Q.98 The high-tempo joint maritime exercise Kalari Leap, conducted by the Indian Air Force in February 2026, was organised in which of the following regions?

- Ans**
- ☐ A. Sundarbans delta region
 - ☐ B. Andaman and Nicobar Islands
 - ☐ C. Gulf of Kutch coastline
 - ☒ D. Lakshadweep and Minicoy Archipelago

Q.99 Exercise Vayushakti 2026, conducted by the Indian Air Force, showcased its operational capabilities at which field firing range?

- Ans**
- ☒ A. Pokhran Field Firing Range
 - ☐ B. Chandan Field Firing Range
 - ☐ C. Babina Field Firing Range
 - ☐ D. Mahajan Field Firing Range

Q.100 Which of the following digital platforms of the Department of Consumer Affairs received the Silver Award under Category I – Government Process Re-engineering by Use of Technology for Digital Transformation at the National Awards for e-Governance (NAeG) 2026?

- Ans**
- ☐ A. e-Daakhil
 - ☐ B. e-Nivaran
 - ☐ C. e-Samadhan
 - ☒ D. e-Jagriti



रेलवे भर्ती बोर्ड / RAILWAY RECRUITMENT BOARD
सीईएन ०२/२०२६ - तकनीशियन ग्रेड I सिगनल और तकनीशियन ग्रेड III
CEN 02/2026 - Technician Grade I Signal and Technician Grade III



Test Date	08/10/2026
Test Time	12:45 PM - 2:15 PM
Subject	RRB Technician Grade III

*** Note**

Correct Answer will carry 1 mark per Question.

Incorrect Answer will carry 1/3 Negative mark per Question.

1. Options shown in green color with a tick icon are correct.

2. Chosen option on the right of the question indicates the option selected by the candidate.

Section : Mathematics

Q.1 Five years ago from now, Aman was 6 times as old as Chaman. After 5 years from now, he will be 2 times as old as Chaman will then be. The present age of Aman (in years) is:

Ans ☒ A. 20

☐ B. 12

☐ C. 19

☐ D. 16

Q.2 A school has three classes: X, Y and Z. Class X has 25 students with an average score of 70, Class Y has 35 students with an average score of 80, and Class Z has M students with an average score of 90. If the average score of all students is 80, find the value of M.

Ans ☐ A. 15

☐ B. 20

☐ C. 10

☒ D. 25

Q.3 A train moving at 72 km/h crosses a platform 200 m long in 25 seconds. Find the length of the train.

Ans ☐ A. 250 m

☐ B. 350 m

☒ C. 300 m

☐ D. 200 m

Q.4 A has 72 articles whereas B has X same kind of articles. If the ratio of articles of A and B is 9 : 11. Then the value of 72 + X is:

Ans ☒ A. 160

☐ B. 200

☐ C. 140

☐ D. 180

Q.5 The median of a symmetric distribution is 32 and the mode is 29. What is the mean?

Ans ☐ A. 34

☒ B. 33.5

☐ C. 36

☐ D. 35.5

Q.6 Ali sold an article for ₹6400. If the cost price of the article was ₹5600, then the profit percentage earned by Ali was:

- Ans ☒ A. $14\frac{2}{7}\%$
☐ B. 15%
☐ C. 14%
☐ D. $15\frac{1}{7}\%$

Q.7 The average sale of cars by a dealer per day in the month of March, other than on Saturdays and Sundays, is 156. The average sale of cars per day on Sundays is 167. What is the average sale of cars per day on Saturdays, if the first Saturday is on the 3rd of March and average sale of cars per day for the whole month is 150?

- Ans ☒ A. 110
☐ B. 109
☐ C. 111
☐ D. 113

Q.8 A certain sum amounts to ₹24255 in 12 months at 10% per annum compounded half-yearly. Find the sum.

- Ans ☒ A. ₹22000
☐ B. ₹21000
☐ C. ₹33000
☐ D. ₹24000

Q.9 The four numbers X, $\sqrt{\frac{49}{121}}$, $1\frac{1}{3}$, and 4 are in proportion, then the value of X is:

- Ans ☐ A. $\frac{7}{11}$
☒ B. 0.21
☐ C. $0.\overline{3}$
☐ D. $2\frac{1}{3}$

Q.10 If 20% of k is 10 less than 1800% of 15, then k is:

- Ans ☒ A. 1300
☐ B. 1340
☐ C. 1260
☐ D. 1280

Q.11 A store applies two successive discounts of 20% and $(5y - 2)\%$ on the marked price of an item. If the final selling price is 60% of the marked price, what is the value of y?

- Ans ☐ A. 6.4
☐ B. 7.4
☒ C. 5.4
☐ D. 4.4

Q.12 A shopkeeper bought 6 identical mobile phones for a total of ₹30,000. He then sold 2 of these mobile phones for a total of ₹19,000. What is his gain percentage on the phones sold?

- Ans ☐ A. 91%
☐ B. 88%
☐ C. 89%
☒ D. 90%

Q.13 If $\frac{1}{(\operatorname{cosec}\theta + 1)} + \frac{1}{(\operatorname{cosec}\theta - 1)} = 2\sec\theta$, $0^\circ < \theta < 90^\circ$, then the value

Ans

- ☐ A. $\frac{-\sqrt{2} + 4}{2}$
☒ B. $\frac{\sqrt{2} - 4}{2}$
☐ C. $\frac{-\sqrt{2} - 4}{2}$
☐ D. $\frac{\sqrt{2} + 4}{2}$

Q.14 Simplify: $\left(1 + \frac{q^2 - p^2 - r^2}{2pr}\right) \times \left(\frac{1}{q + p - r} + \frac{1}{r + q - p}\right)$

Ans

- ☐ A. $\frac{r}{pq}$
☒ B. $\frac{q}{pr}$
☐ C. $\frac{1}{pqr}$
☐ D. $\frac{p}{qr}$

Q.15 A cylindrical pillar is 20 cm in diameter and 35 m in height. Find the cost of painting the curved surface of the pillar at the rate of ₹30 per m^2 .

$\left(\text{Use } \pi = \frac{22}{7}\right)$

Ans

- ☐ A. ₹704
☒ B. ₹660
☐ C. ₹707
☐ D. ₹669

Q.16 Two tangents AB and BC are drawn to the circle with centre O, such that $\angle ABC = 60^\circ$. If $AB = 8.7$ cm, find the length of OB.

Ans

- ☐ A. $5\sqrt{3}$ cm
☐ B. $8.5\sqrt{3}$ cm
☒ C. $5.8\sqrt{3}$ cm
☐ D. $8\sqrt{3}$ cm

Q.17 Three years ago, the populations of Villages S and T were in the ratio 7 : 2. Since then, S's population has increased by 3% per year, while T's population has decreased by 3% per year. If their combined population today is 36,155, what was the population of Village T three years ago? (Round your answer to the nearest integer)

Ans

- ☐ A. 7,732
☒ B. 7,632
☐ C. 7,432
☐ D. 7,532

Q.18 In $\triangle ABC$, $DE \parallel AC$, where D and E are the points on sides AB and AC respectively. If $BD = 10$ cm and $AD = 4$ cm, then what is the ratio of the area of trapezium ADEC?

- Ans
- ☐ A. 24 : 25
 - ☒ B. 25 : 24
 - ☐ C. 26 : 25
 - ☐ D. 25 : 26

Q.19 Two trains of lengths 120 metres and 180 metres are running in opposite directions on parallel tracks. The speed of the first train is 54 km/hr, and the speed of the second train is 72 km/hr. How much time will it take for the two trains to completely cross each other (rounded off to the nearest integer)?

- Ans
- ☐ A. 12 seconds
 - ☐ B. 15 seconds
 - ☐ C. 7 seconds
 - ☒ D. 9 seconds

Q.20 The radius of the base of a cone is 7 cm and its slant height is 25 cm. The entire outer surface of the cone is to be painted at the rate of ₹2 per cm^2 . What is the total cost of painting the cone? (Use $\pi = \frac{22}{7}$)

- Ans
- ☐ A. ₹1,424
 - ☐ B. ₹1,440
 - ☐ C. ₹1,480
 - ☒ D. ₹1,408

Q.21 Pipe P can fill a tank in 10 hours and Pipe Q can fill it in 20 hours. If both pipes are opened together for 5 hours, what fraction of the tank is still empty?

- Ans
- ☐ A. $\frac{1}{3}$
 - ☒ B. $\frac{1}{4}$
 - ☐ C. $\frac{1}{5}$
 - ☐ D. $\frac{1}{2}$

Q.22 Ram can do a job in x days. Mohan is twice as fast as Ram. Raghav is 50% more efficient than Mohan. If Ram, Mohan and Raghav together finish the job in 4 days, what is the value of x?

- Ans
- ☐ A. 28
 - ☐ B. 26
 - ☒ C. 24
 - ☐ D. 22

Q.23 A man has invested ₹57500 at a rate of 12% per annum simple interest for 2 years. Find the amount (in ₹) that he will receive after 2 years.

- Ans
- ☐ A. 72300
 - ☒ B. 71300
 - ☐ C. 13800
 - ☐ D. 14800

Q.24 The sum of prime numbers upto 75 is:

- Ans**
- ☐ A. 713
 - ☒ B. 712
 - ☐ C. 714
 - ☐ D. 711

Q.25 There are 48 students in section A and 52 students in section B of a class in a school. What is the minimum number of books required for their class library so that they can distribute equally among the students of section A or section B?

- Ans**
- ☐ A. 626
 - ☒ B. 624
 - ☐ C. 623
 - ☐ D. 625

Section : General Intelligence and Reasoning

Q.26 Refer to the following letter series and answer the question.
(Left) M S H T N D K U Z G O A Q C R X F I W Y E (Right)
How many letters are there in the English alphabetical series between the letter which is seventh from the right end and fifth from the left end of the series?

- Ans**
- ☐ A. Five
 - ☐ B. Six
 - ☒ C. Three
 - ☐ D. Four

Q.27 A, B, C, D, E and F live on six different floors of the same building. The lowermost floor in the building is numbered 1, the floor above it, number 2 and so on till the topmost floor is numbered 6.

D lives on an odd numbered floor but not 5. The sum of floors on which D and F live is 5. Only 3 people live between F and B. C lives immediately above A. How many people live between C and D?

- Ans**
- ☐ A. 3
 - ☐ B. 4
 - ☒ C. 1
 - ☐ D. 2

Q.28 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?
11 C 4 B 21 D 3 A 12 = ?

- Ans**
- ☐ A. 45
 - ☐ B. 51
 - ☒ C. 49
 - ☐ D. 47

Q.29 What should come in place of the question mark (?) in the given series based on the English alphabetical order?

BUN HAT NGZ TMF ?

- Ans**
- ☒ A. ZSL
 - ☐ B. ZES
 - ☐ C. ZSE
 - ☐ D. ZLS

Q.30 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 letter-cluster 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.)

- Ans
- ☒ A. WB - DI
 - ☒ B. OT - BI
 - ☒ C. XC - EJ
 - ☒ D. BG - IN

Q.31 A, B, C, D, E and F live on six different floors of the same building. The lowermost floor in the building is numbered 1, the floor above it, number 2 and so on till the topmost floor is numbered 6.

The product of floors on which A and B live is 10. E lives immediately above C. The sum of floors on which D and A live is 11.

What is the sum of floors on which B and E live?

- Ans
- ☒ A. 7
 - ☒ B. 8
 - ☒ C. 6
 - ☒ D. 5

Q.32 What should come in place of '?' in the given series?
31, 33, 37, 43, 51 ?

- Ans
- ☒ A. 62
 - ☒ B. 63
 - ☒ C. 61
 - ☒ D. 60

Q.33 What should come in place of '?' in the given series?

18 21 25 30 36 ?

- Ans
- ☒ A. 43
 - ☒ B. 51
 - ☒ C. 65
 - ☒ D. 41

Q.34 In this question, a question is followed by two statements numbered (I) and (II). You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and decide the appropriate answer.

Q. Five people – M, N, O, P, and Q – are sitting around a circular table facing the center.

Who is sitting exactly between M and Q?

(I) O is sitting to the immediate right of M. N is to the immediate left of Q.

(II) P is sitting to the immediate left of O. M is not adjacent to Q.

- Ans
- ☒ A. Both statements I and II together (and not statement 1 alone or statement 2 alone) are sufficient to answer the question.
 - ☒ B. Both statements I and II together are NOT sufficient to answer the question
 - ☒ C. Data in Statement II alone is sufficient to answer the question while data in statement I is not
 - ☒ D. Data in Statement I alone is sufficient to answer the question while data in statement II is not

Q.35 Amit starts from Point A and drives 9 km towards south. He then takes a right turn, drives 14 km, turns right and drives 12 km. He then takes a right turn and drives 18 km. He takes a final right turn, drives 3 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-degree turns only unless specified.)

- Ans
- ☒ A. 5 km to the west
 - ☒ B. 5 km to the east
 - ☒ C. 4 km to the west
 - ☒ D. 4 km to the east

Q.36 In this question, a question is followed by two statements numbered (I) and (II). You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and decide the appropriate answer.

Among 5 poles, E, H, N, O and Y each having a different height, which pole is the shortest?

(I) Y is taller than N.

(II) O is taller than Y. E is only shorter than one pole.

- Ans**
- ☒ A. Both statements I and II together are NOT sufficient to answer the question
 - ☐ B. Both statements I and II together (and not statement I alone or statement II alone) are sufficient to answer the question
 - ☐ C. Data in statement I alone is sufficient to answer the question while data in statement II is not
 - ☐ D. Data in statement II alone is sufficient to answer the question while data in statement I is not

Q.37 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 letter-cluster 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 pair.)

- Ans**
- ☒ A. SV-QW
 - ☐ B. LO-KN
 - ☐ C. AD-ZC
 - ☐ D. FI-EH

Q.38 In the word JOURNEY, if the letters are arranged in reverse alphabetical order, how many letters retain their original position?

- Ans**
- ☒ A. One
 - ☐ B. None
 - ☐ C. Two
 - ☐ D. Three

Q.39 In the word PRIVATE, when all letters are arranged in English alphabetical order (from left to right). Which of the letters are in the 3rd and 4th position (from left to right) in the new arrangement?

- Ans**
- ☐ A. E I
 - ☐ B. P R
 - ☐ C. R T
 - ☒ D. I P

Q.40 In a certain code language, 'youth bean phone' is coded as 'jp wr sd' and 'lady phone song' is coded as 'wd lz wr'. How is 'phone' coded in the given language?

- Ans**
- ☐ A. jp
 - ☐ B. sd
 - ☐ C. wd
 - ☒ D. wr

Q.41 If 1 is added to each odd digit and 2 is subtracted from each even digit in the number 5482136, how many digits will appear more than once in the new number thus formed?

- Ans**
- ☐ A. Two
 - ☒ B. Three
 - ☐ C. One
 - ☐ D. None

Q.42 In this question, a group of number/symbol is coded using letter codes as per the codes given below and the conditions which follow. The correct combination of codes following the conditions is your answer. If none of the conditions follow, then codes for the respective Number/Symbol to be followed directly as given in the table.

Number/Symbol @ 9 # 5 ? 2 ! 0 & 4

Code V Y A D F I L O R U

Conditions –

- (i) If the first element is a symbol and the last a number, the codes for these two (the first and the last elements) are to be interchanged.
- (ii) If the first element is an odd number and the last an even number, the first and last elements are to be coded as ©.
- (iii) If both second and third elements are perfect squares, the third element is to be coded as the code for the third element.

What is the code for the following group of number-symbols?
5 ? & 0 2

- Ans
- ☒ A. © F O R I
 - ☒ B. D F R O I
 - ☒ C. © F R O ©
 - ☒ D. D F R O ©

Q.43 Seven people, P, Q, R, S, T, U and V, are sitting in a row facing north. Only two people sit between Q and S. T sits to the immediate left of U. R sits third to the right of Q. V is the immediate neighbor of both S and P. If the person sitting at the extreme left end swaps his position with V, who will now be the immediate neighbor of V?

- Ans
- ☒ A. S
 - ☒ B. P
 - ☒ C. T
 - ☒ D. Q

Q.44 18 is related to 59 following a certain logic. Following the same logic, 23 is related to 74. To which of the following is 31 related, following the same logic?
(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.)

- Ans
- ☒ A. 112
 - ☒ B. 102
 - ☒ C. 106
 - ☒ D. 98

Q.45 If '+' means 'x', '-' means '+', 'x' means '÷', '÷' means '-', then what will come in place of the question mark (?) in the following equation?

$$12 - 6 + 3 \times 2 = ?$$

- Ans
- ☒ A. 21
 - ☒ B. 9
 - ☒ C. 18
 - ☒ D. 15

Q.46 L is the brother of Y. Y is the father of V. E is the father of Q. Q is the son of V. How is L related to Q?

- Ans** ☒ A. Mother's father's brother
☐ B. Father's brother
☐ C. Wife's father's brother
☐ D. Brother

Q.47 LNLM is related to PRPQ in a certain way based on the English alphabetical order. In the same way, QSQR is related to UWUV. To which of the following is ZBZA related, following the same logic?

- Ans** ☒ A. DFDE
☐ B. DECE
☐ C. DFCE
☐ D. DGCI

Q.48 Refer to the following letter series and answer the question. Counting to be done from left to right only.

(Left) S Q B T V J Y H G T E X A J T E H Y B V F T E B M (Right)

How many such consonants are there each of which is immediately preceded by a vowel and also immediately followed by a vowel?

- Ans** ☐ A. Three
☒ B. One
☐ C. Two
☐ D. None

Q.49 FGDZ is related to XYVR in a certain way based on the English alphabetical order. In the same way, VWTP is related to NOLH. To which of the following is GHEA related, following the same logic?

- Ans** ☐ A. YZVS
☐ B. YAVB
☒ C. YZWS
☐ D. YYVS

Q.50 In a certain code language, 'GOAT' is coded as '7269' and 'TEAO' is coded as '4679'. What is the code for 'E' in the given code language?

- Ans** ☒ A. 4
☐ B. 6
☐ C. 9
☐ D. 7

Section : General Science

Q.51 Damage to which part of the brain is most likely to cause immediate disruption of breathing and heartbeat?

- Ans** ☒ A. Medulla oblongata
☐ B. Hypothalamus
☐ C. Cerebellum
☐ D. Cerebrum

Q.52 Which of the following factors contributes to the high plant diversity in India?

- Ans** ☒ A. Varied climatic zones
☐ B. Limited rainfall
☐ C. Consistent altitude
☐ D. Uniform soil types

Q.53 Which statement best illustrates the Law of Constant Proportions when considering the composition of water from different sources?

- Ans ☒ A. Water from any source contains hydrogen and oxygen in the same mass ratio.
☐ B. Hydrogen and oxygen form water only under certain temperature and pressure.
☐ C. Water contains hydrogen and oxygen in different ratios depending on its source.
☐ D. Hydrogen and oxygen combine in any ratio to form water.

Q.54 What is a common observation when magnesium reacts with air?

- Ans ☐ A. It forms a red residue
☐ B. It forms green crystals
☒ C. It forms a white powdery ash
☐ D. It forms a blue solution

Q.55 The element commonly referred to as the "building block of life" is:

- Ans ☐ A. Helium
☐ B. Iron
☐ C. Sulphur
☒ D. Carbon

Q.56 Which of the following is not an example of uniform circular motion?

- Ans ☐ A. An artificial satellite orbiting the Earth
☐ B. The blades of a ceiling fan rotating at constant speed
☒ C. A ball rolling on a straight road
☐ D. The moon revolving around the Earth

Q.57 During a hike, a person walks 7 km east and then 24 km north. Which description best matches the person's resultant displacement vector?

- Ans ☐ A. A vector of 24 km pointing north from the starting point
☐ B. A vector of 31 km pointing north from the starting point
☒ C. A vector of 25 km pointing northeast from the starting point
☐ D. A vector of 7 km pointing east from the starting point

Q.58 Which of the following would change if a neutron is added to the nucleus of an atom, but not a proton or electron?

- Ans ☒ A. The mass number would increase, but the charge of element would not change.
☐ B. The atomic number would increase, changing the element.
☐ C. The charge on the nucleus would become negative.
☐ D. The number of electrons would change, altering reactivity.

Q.59 Which process is carried out by Azotobacter bacteria in the soil as part of the nitrogen cycle?

- Ans ☒ A. Conversion of nitrogen gas into ammonia
☐ B. Conversion of nitrates into nitrogen gas
☐ C. Conversion of ammonia into proteins
☐ D. Conversion of ammonia into nitrites

Q.60 Which layer of the atmosphere is primarily responsible for most weather phenomena on Earth?

- Ans ☐ A. Thermosphere
☐ B. Mesosphere
☒ C. Troposphere
☐ D. Stratosphere

Q.61 Which of the following is not a connective tissue in animals?

- Ans
- ☐ A. Ligament
 - ☐ B. Cartilage
 - ☐ C. Tendon
 - ☒ D. Neuron

Q.62 A solution of ammonium sulfate is found to have a pH of about 5. Which statement explains this observation?

- Ans
- ☐ A. The salt acts as a buffer, resisting pH change
 - ☐ B. The salt is from a strong base and strong acid, making it neutral
 - ☐ C. The salt is from a weak acid and strong base, causing basic hydrolysis
 - ☒ D. The salt is from a weak base and strong acid, causing acidic hydrolysis

Q.63 Reverberation is the phenomenon of:

- Ans
- ☐ A. Absorption of sound
 - ☐ B. Refraction of sound waves
 - ☒ C. Persistence of sound due to multiple reflections
 - ☐ D. Reflection of sound once

Q.64 Which of the following statements is/are correct about the twinkling of stars as observed from Earth?

- (i) Twinkling occurs due to atmospheric refraction.
- (ii) The density of Earth's atmosphere is uniform at all heights.
- (iii) The apparent position of stars shifts slightly due to changing atmospheric conditions.
- (iv) Twinkling is more pronounced for planets than for stars.

- Ans
- ☐ A. Both (ii) and (iv)
 - ☐ B. Both (i) and (ii)
 - ☒ C. Both (i) and (iii)
 - ☐ D. Both (iii) and (iv)

Q.65 A student shines a laser beam from water into air at an angle to the normal. She observes that the beam bends away from the normal as it passes into air. Which concept of the laws of refraction is best demonstrated by this observation?

- Ans
- ☒ A. When light travels from a denser to a rarer medium, it bends away from the normal.
 - ☐ B. Total internal reflection explains the behavior when the laser beam passes into air.
 - ☐ C. Light always travels straight through different media, which is explained by the laws of refraction.
 - ☐ D. The law of reflection determines that the laser beam bends away from the normal.

Q.66 Which of the following statements best explains what happens to the speed of sound when it travels from air into water?

- Ans
- ☒ A. The speed of sound increases as it moves from air to water.
 - ☐ B. The speed of sound remains the same in air and water.
 - ☐ C. The speed of sound changes the pitch as it enters water.
 - ☐ D. The speed of sound decreases as it moves from air to water.

Q.67 If a person stands close to a wall and pushes the wall with his hands, which of the following is a correct statement regarding the force exerted by the wall on the person?

- Ans
- ☐ A. The wall does not exert any force on the person.
 - ☒ B. The wall exerts an equal and opposite force back on the person.
 - ☐ C. The wall exerts a greater force in the same direction as the direction of the push.
 - ☐ D. The wall pulls the person toward itself.

Q.68 Which formula is correct for calculating power(P) when work(W) and time(t) are given?

- Ans ☒ A. $P = W/t$
☐ B. $P = W + t$
☐ C. $P = W - t$
☐ D. $P = W \times t$

Q.69 A runner completes a 400 m circular track in 80 s, ending at the starting point. What is the magnitude of average velocity for this run?

- Ans ☒ A. 0 m/s
☐ B. 10 m/s
☐ C. 5 m/s
☐ D. 4 m/s

Q.70 If two organisms belong to the same genus but different species, it means:

- Ans ☐ A. They have no common characteristics.
☒ B. They are closely related but differ at the species level.
☐ C. They are less related than organisms in different genera.
☐ D. They are identical in all characteristics.

Q.71 Animals with a backbone are classified under the subphylum _____.

- Ans ☒ A. Vertebrata
☐ B. Annelida
☐ C. Mollusca
☐ D. Arthropoda

Q.72 Why does diamond have a much higher hardness compared to graphite?

- Ans ☐ A. Graphite has metallic bonding between atoms
☒ B. Diamond has a three-dimensional network with strong bonds
☐ C. Graphite is made of flexible chains of atoms
☐ D. Diamond has loosely packed atoms in sheets

Q.73 A hockey puck of mass 0.5 kg slides across ice with an initial velocity of 8 m/s. If a player applies a constant force for 0.5 s and the puck's velocity increases to 12 m/s, what is the magnitude of the applied force?

- Ans ☐ A. 2 N
☐ B. 8 N
☒ C. 4 N
☐ D. 6 N

Q.74 Which type of tissue is mainly responsible for movement in the musculoskeletal system?

- Ans ☒ A. Muscle tissue
☐ B. Epithelial tissue
☐ C. Nervous tissue
☐ D. Connective tissue

Q.75 A mining company discovers a new metal that is low in the activity series and is found in its native state. Which extraction method should the company prioritize to obtain the pure metal efficiently?

- Ans ☐ A. Electrolysis of molten metal salt
☐ B. Roasting in air followed by reduction
☒ C. Physical separation such as hand picking or washing
☐ D. Thermal decomposition of the ore

Q.76 Which of the following simple machines should be used to lift a large rock vertically upwards with least effort, given all the simple machines are ideally designed?

- Ans
- ☐ A. An inclined plane at a steep angle
 - ☒ B. A pulley system with multiple supporting strands
 - ☐ C. A lever with a short effort arm
 - ☐ D. A single fixed pulley for changing direction

Q.77 Which of the following best describes a heterogeneous mixture?

- Ans
- ☐ A. A substance containing only one kind of particle
 - ☐ B. A mixture where the components are evenly mixed throughout
 - ☐ C. A mixture of gases with identical properties
 - ☒ D. A mixture where the components are not uniformly distributed

Q.78 When an object is moving along a straight line at a variable speed, how can we express the magnitude of its rate of motion?

- Ans
- ☐ A. Constant speed
 - ☒ B. Average velocity
 - ☐ C. Displacement
 - ☐ D. Total acceleration

Q.79 'Interconversion of states of matter' and 'burning' are examples of:

- Ans
- ☒ A. physical and chemical change, respectively
 - ☐ B. both physical changes
 - ☐ C. chemical and physical change, respectively
 - ☐ D. both chemical changes

Q.80 Bleaching powder is obtained by the action of chlorine gas on:

- Ans
- ☐ A. quicklime
 - ☒ B. slaked lime
 - ☐ C. water
 - ☐ D. lime water

Q.81 Which of the following statements is incorrect about the fluid mosaic model?

- Ans
- ☒ A. Fats in the membrane act as gatekeepers, helping substances pass through.
 - ☐ B. Cell membrane consists of a lipid bilayer.
 - ☐ C. Layer of special fat molecules with water-attracting heads faces outward and water-repelling tails inward.
 - ☐ D. Membrane molecules can move sideways, flip, and rotate, making it fluid in nature.

Q.82 A plant is kept in a sealed glass container for several days. Which life process is most likely to be affected?

- Ans
- ☐ A. Conversion of food into energy
 - ☐ B. Transport of nutrients
 - ☒ C. Gas exchange with surrounding
 - ☐ D. Water absorption by roots

Q.83 How does soap help in cleaning greasy clothes?

- Ans
- ☐ A. It reacts with water to form acid
 - ☐ B. It changes the colour of grease to make it invisible
 - ☐ C. It dissolves grease in water directly
 - ☒ D. It forms micelles that trap grease and wash it away

Q.84 An object is placed at a distance of twice the focal length (2F) from a convex lens along its principal axis. What is the nature and position of the image formed?

- Ans**
- ☒ A. Image is at 2F on the other side; real, inverted and same size
 - ☐ B. Image is at focus; real, inverted and diminished
 - ☐ C. Image is between F and 2F; real, inverted and diminished
 - ☐ D. Image is at infinity; real and inverted

Q.85 Which of the following events marks the beginning of the menstrual cycle in human females?

- Ans**
- ☐ A. Implantation of fertilized egg
 - ☐ B. Ovulation of a mature egg
 - ☒ C. Shedding of the uterine lining
 - ☐ D. Fertilization of ovum by sperm cell

Q.86 Which symbol represents the element oxygen?

- Ans**
- ☐ A. C
 - ☒ B. O
 - ☐ C. S
 - ☐ D. N

Q.87 Which scenario demonstrates negative work being done by a person on a suitcase?

- Ans**
- ☐ A. A person lifting a suitcase vertically upward
 - ☐ B. A person holding a suitcase stationary over their head
 - ☐ C. A person dropping a suitcase so it falls freely under gravity
 - ☒ D. A person lowering a suitcase slowly to the ground

Q.88 The statement that electrons are embedded in a positive sphere is explained by which model?

- Ans**
- ☐ A. Heisenberg
 - ☐ B. Rutherford model
 - ☒ C. Plum Pudding model
 - ☐ D. Bohr's model

Q.89 Bryophytes exhibit limited ability to colonize dry terrestrial environments compared to pteridophytes as:

- Ans**
- ☐ A. They have needle-like leaves that reduce water loss.
 - ☐ B. They reproduce through flowers that require insect pollination.
 - ☒ C. They lack vascular tissues and need moisture.
 - ☐ D. They produce seeds that cannot survive in dry conditions.

Q.90 Which of the following best describes how plants exhibit movement due to growth?

- Ans**
- ☐ A. A Venus flytrap leaf snapping shut
 - ☐ B. A Mimosa leaf closing when touched
 - ☐ C. Roots absorbing water from the soil
 - ☒ D. A stem bending toward a light source

Section : General Awareness

Q.91 The Third India–Australia Annual Summit was held on 9 July 2026 in which of the following places?

- Ans**
- ☐ A. Chennai
 - ☐ B. New Delhi
 - ☒ C. Melbourne
 - ☐ D. Perth

Q.92 The book "Sanskritir Ratna Bhandar: Bhaowaiyar Itibritto", released by Vice President C. P. Radhakrishnan in June 2026, was written by whom?

- Ans**
- ☒ A. Dr. Jayanta Kumar Roy and Sangita Roy
 - ☐ B. Uday Sankar Bhattacharya and Sangita Roy
 - ☐ C. Dr. Jayanta Kumar Roy and Ananda Roy
 - ☐ D. Jayanta Mahapatra and Sangita Roy

Q.93 Which one of the following policy reforms implemented in late 2025 mandated safety provisions, including transport facilities, for women working night shifts in India?

- Ans**
- ☒ A. Occupational Safety, Health and Working Conditions Code, 2020
 - ☐ B. Vishaka Guidelines 2019
 - ☐ C. POSH Act, amendment 25, 2021
 - ☐ D. Safe City Project, labour working conditions act 2021

Q.94 In February 2026, the Digital India BHASHINI Division (DIBD) signed an MoU with which institution to enhance multilingual banking services?

- Ans**
- ☐ A. National Payments Corporation of India (NPCI)
 - ☐ B. Small Industries Development Bank of India (SIDBI)
 - ☒ C. Reserve Bank of India (RBI)
 - ☐ D. Securities and Exchange Board of India (SEBI)

Q.95 In June 2026, the 20th National Statistics Day was celebrated under which theme?

- Ans**
- ☐ A. Statistics for Sustainable Development
 - ☒ B. Unlocking the Potential of Administrative Data
 - ☐ C. Harnessing Official Statistics for Growth
 - ☐ D. Data-Driven Governance for Viksit Bharat

Q.96 During the national consultation workshop held in November 2025, which international organization's representative recognized India as one of the world's largest contributors to the global nursing workforce?

- Ans**
- ☒ A. World Health Organization (WHO)
 - ☐ B. United Nations Children's Fund (UNICEF)
 - ☐ C. International Council of Nurses (ICN)
 - ☐ D. World Family welfare Organization (WFWO)

Q.97 In March 2026, the Indian Armed Forces contingent arrived at which of the following places to participate in the eleventh edition of the Joint Military Exercise "LAMITIYE-2026"?

- Ans**
- ☐ A. Thailand
 - ☐ B. Mauritius
 - ☐ C. Maldives
 - ☒ D. Seychelles

Q.98 In June 2026, who was granted an extension and reappointed as the Chairman of the Central Board of Direct Taxes (CBDT) until December 31, 2026?

- Ans**
- ☐ A. Tuhin Kanta Pandey
 - ☐ B. Sanjay Malhotra
 - ☐ C. Nitin Gupta
 - ☒ D. Ravi Agrawal

Q.99 The agreement signed in July 2026 to resolve pending payment issues under the Narmada Award involved which group of States?

- Ans**
- ☐ A. Madhya Pradesh, Gujarat, Telangana and Maharashtra
 - ☐ B. Gujarat, Rajasthan, Uttar Pradesh and Madhya Pradesh
 - ☐ C. Maharashtra, Chhattisgarh, Gujarat and Rajasthan
 - ☒ D. Gujarat, Madhya Pradesh, Maharashtra and Rajasthan

Q.100 In February 2026, the qualification-level load test of the Drogue Parachute for the Gaganyaan mission was conducted by DRDO at which facility?

- Ans**
- ☐ A. Aeronautical Test Range, Chitradurga
 - ☐ B. Defence Bioengineering and Electromedical Laboratory, Bengaluru
 - ☐ C. Integrated Test Range, Chandipur
 - ☒ D. Rail Track Rocket Sled facility of TBRL, Chandigarh



रेलवे भर्ती बोर्ड / RAILWAY RECRUITMENT BOARD
सीईएन ०२/२०२६ - तकनीशियन ग्रेड I सिगनल और तकनीशियन ग्रेड III
CEN 02/2026 - Technician Grade I Signal and Technician Grade III



Test Date	08/10/2026
Test Time	4:30 PM - 6:00 PM
Subject	RRB Technician Grade III

*** Note**

Correct Answer will carry 1 mark per Question.

Incorrect Answer will carry 1/3 Negative mark per Question.

1. Options shown in green color with a tick icon are correct.

2. Chosen option on the right of the question indicates the option selected by the candidate.

Section : Mathematics

Q.1 The value of $\frac{\sin\theta}{\sec\theta + \tan\theta - 1} + \frac{\cos\theta}{\operatorname{cosec}\theta + \cot\theta - 1}$ is

- Ans
- ☒ A. 0
 - ☒ B. -1
 - ☒ C. 1
 - ☒ D. 2

Q.2 A shopkeeper marks up the price of a bag by $(3y + 8)\%$ above its cost price. He offers a 25% discount on the marked price and obtains a 2% profit. What is the value of y ? (Rounded off to the nearest integer)

- Ans
- ☒ A. 8
 - ☒ B. 10
 - ☒ C. 7
 - ☒ D. 9

Q.3 A shopkeeper buys 15 notebooks at ₹20 each and sells them all for a total of ₹360. What is the profit or loss percentage?

- Ans
- ☒ A. Loss of 20%
 - ☒ B. Loss of 15%
 - ☒ C. Profit of 20%
 - ☒ D. Profit of 25%

Q.4 A tank is provided with two inlet pipes, A and B, and one outlet pipe, C. Pipe A alone can fill the tank completely in 12 hours, while pipe B alone can do so in 18 hours. Pipe C, on the other hand, can empty the full tank in 36 hours. Initially, all three pipes are opened simultaneously and allowed to operate together. After 4 hours of operation, the outlet pipe C is closed, while the inlet pipes A and B continue to function. Determine how much additional time (in hours) will be required to fill the tank completely.

- Ans
- ☒ A. 5
 - ☒ B. 3
 - ☒ C. 6
 - ☒ D. 4

Q.5 The 7-digit number 236A3B9 is divisible by 3. Find the least possible value of (A+B).

- Ans**
- ☐ A. 4
 - ☐ B. 7
 - ☐ C. 10
 - ☒ D. 1

Q.6 In a distribution, the mode is 18 and the mean is 22. Find the median.
(Rounded off to 2 decimal places.)

- Ans**
- ☐ A. 20.33
 - ☐ B. 21.00
 - ☐ C. 21.33
 - ☒ D. 20.67

Q.7 Two trains start simultaneously from two stations and travel towards each other at speeds of 72 km/hr and 90 km/hr. When they meet, one train has traveled 72 km more than the other. Find the distance (in km) between the two stations.

- Ans**
- ☐ A. 696
 - ☐ B. 674
 - ☒ C. 648
 - ☐ D. 712

Q.8 Two pipes, Pipe A and Pipe B, can fill a tank in 8 hours and 12 hours, respectively. If both pipes are opened together, in how many hours will the tank be filled?

- Ans**
- ☐ A. 5.5 hours
 - ☒ B. 4.8 hours
 - ☐ C. 6.4 hours
 - ☐ D. 10.6 hours

Q.9 If $x : 12 = 5 : 6$, what is the value of x?

- Ans**
- ☐ A. 14
 - ☐ B. 8
 - ☐ C. 12
 - ☒ D. 10

Q.10 For a certain principal and annual rate of interest, the difference between the compound interest (compounded annually) and the simple interest after 2 years is ₹720. If both the principal and the annual rate of interest are doubled, what will be the new difference between the compound interest and the simple interest after 2 years?

- Ans**
- ☐ A. ₹4,320
 - ☐ B. ₹2,880
 - ☐ C. ₹5,040
 - ☒ D. ₹5,760

Q.11 In triangle PQR, points S and T lie on PQ and PR, respectively, such that $ST \parallel QR$. If $PS : SQ = 4 : 7$ and $PT = 12$ cm, then PR is equal to:

- Ans**
- ☐ A. 24 cm
 - ☒ B. 33 cm
 - ☐ C. 27 cm
 - ☐ D. 30 cm

Q.12 Which of the following is NOT correct regarding the properties of a circle?

- Ans**
- ☒ A. The largest chord of the circle with radius 7 units has length 14 units.
 - ☒ B. The length of a chord decreases when the chord is drawn near to centre.
 - ☒ C. The ratio of perimeter and diameter of a circle is constant.
 - ☒ D. The largest chord divides the circle in two equal halves.

Q.13 Two years ago from now, Hitesh was 6 times as old as Jitesh. After 2 years from now, he will be 2 times as old as Jitesh will then be. The present age of Hitesh (in years) is:

- Ans**
- ☒ A. 5
 - ☒ B. 8
 - ☒ C. 7
 - ☒ D. 6

Q.14 A man has invested ₹57500 at a rate of 8% per annum simple interest for 3 years. Find the amount (in ₹) that he will receive after 3 years.

- Ans**
- ☒ A. 14800
 - ☒ B. 72300
 - ☒ C. 13800
 - ☒ D. 71300

Q.15 A car travels one-third of a distance at 30 km/h, one-third at 60 km/h, and the remaining one-third at 90 km/h. Find the average speed (in km/h).

- Ans**
- ☒ A. 540/11
 - ☒ B. 548/11
 - ☒ C. 545/11
 - ☒ D. 536/11

Q.16 The length and breadth of a rectangular tank are such that when each is increased by 6 m, their ratio becomes 7 : 5. When each is decreased by 8 m, their ratio becomes 1 : 3. Find the breadth of the tank.

- Ans**
- ☒ A. 2.50 meters
 - ☒ B. 2.75 meters
 - ☒ C. 3.00 meters
 - ☒ D. 2.25 meters

Q.17 Mohit sold a watch to Raman at a profit of 8% and Raman sold it to Karan at a loss of 5%. If Karan pays ₹1,710 for it, for how much did Mohit purchase it? (Rounded off to the nearest integer)

- Ans**
- ☒ A. ₹1,697
 - ☒ B. ₹1,617
 - ☒ C. ₹1,637
 - ☒ D. ₹1,667

Q.18 If 20% of k is 10 less than 1200% of 25, then k is:

- Ans**
- ☒ A. 1430
 - ☒ B. 1450
 - ☒ C. 1410
 - ☒ D. 1490

Q.19

If the surface area of sphere is 616 cm^2 , find its radius. $\left(\text{Use } \pi = \frac{22}{7}\right)$

Ans

- ☐ A. 4 cm
☒ B. 7 cm
☐ C. 5 cm
☐ D. 6 cm

Q.20

Simplify: $\frac{2\sin^2 A - \sin^4 A + \cos^4 A}{3\sin^4 A - 2\sin^6 A + 3\cos^4 A - 2\cos^6 A}$

Ans

- ☐ A. -1
☐ B. $\sec A$
☒ C. 1
☐ D. $\sin A$

Q.21

Find the value of $\left[2^{-1}\left\{\left(\frac{3}{4}\right)^2 + \left(\frac{4}{3}\right)^{-2}\right\}^{-1}\right]$.

Ans

- ☐ A. $\frac{2}{9}$
☒ B. $\frac{4}{9}$
☐ C. $\frac{14}{9}$
☐ D. $\frac{1}{3}$

Q.22 The sides of a triangle are in the ratio 13 : 14 : 15 and its perimeter is 42 cm. What is the area of the triangle?

Ans

- ☐ A. 120 cm^2
☒ B. 84 cm^2
☐ C. 42 cm^2
☐ D. 168 cm^2

Q.23 The amount on a sum of ₹2500 at 18% per annum compound interest, compounded annually, in 2 years will be:

Ans

- ☐ A. ₹4198
☐ B. ₹3365
☐ C. ₹4116
☒ D. ₹3481

Q.24 The average sale of cars by a dealer per day in the month of March, other than on Saturdays and Sundays, is 136. The average sale of cars per day on Sundays is 138. What is the average sale of cars per day on Saturdays, if the first Saturday is on the 3rd of March and average sale of cars per day for the whole month is 199?

Ans

- ☐ A. 521
☐ B. 528
☐ C. 520
☒ D. 525

Q.25 The median of the numbers, 5, 2x, 14, 18, 21 is 14. If x is positive integer, then number of possible values of x, is:

- Ans
- ☐ A. 5
 - ☐ B. 4
 - ☐ C. 3
 - ☒ D. 7

Section : General Intelligence and Reasoning

Q.26 Refer to the following series and answer the question.

(Left)

I T A H K I J B A S I K P A H C L E F I R

A H (Right)

How many letters are there in the English alphabetical order between the letter which is seventh from the right end and third from the left end of the series?

- Ans
- ☐ A. nine
 - ☐ B. eleven
 - ☒ C. ten
 - ☐ D. twelve

Q.27 Refer to the following letter series and answer the question that follows. Counting to be done from left to right only.

(Left) E S Y C X Z O W Y O N F H G U K M H G U K T V A Q E F I H G K (Right)

How many such consonants are there, each of which is immediately preceded by a vowel and also immediately followed by a vowel?

- Ans
- ☒ A. Two
 - ☐ B. One
 - ☐ C. Three
 - ☐ D. None

Q.28 Mr. Z starts from Point Y and drives 3 km towards South. He then takes a left turn, drives 6 km, turns left and drives 9 km. He then takes a left turn and drives 15 km. He takes a final left turn, drives 6 km and stops at Point Z. How far (shortest distance) and towards which direction should he drive in order to reach Point Y again? (All turns are 90 degrees turns only unless specified)

- Ans
- ☐ A. 5 km towards East
 - ☐ B. 7 km towards South
 - ☒ C. 9 km towards East
 - ☐ D. 2 km towards North

Q.29 Seven people, L, M, N, O, X, Y and Z are sitting in a row, facing north. N sits third to the left of Y. O sits second to the left of N. X sits to the immediate right of Z. More than three people sit between X and L. Who sits exactly between O and N?

- Ans
- ☐ A. X
 - ☐ B. L
 - ☐ C. Z
 - ☒ D. M

Q.30 8 is related to 63 following a certain logic. Following the same logic, 10 is related to 99. To which of the following is 12 related, following the same logic?
(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into their constituent digits. E.g. 13 – Operations on 13 such as adding/subtracting/multiplying to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)

- Ans**
- ☐ A. 146
 - ☐ B. 144
 - ☒ C. 143
 - ☐ D. 145

Q.31 What will come in the place of '?' in the following equation, if '+' and '-' are interchanged and 'x' and '÷' are interchanged?
 $105 - 90 \times 6 \div 3 + 110 = ?$

- Ans**
- ☐ A. 45
 - ☒ B. 40
 - ☐ C. 42
 - ☐ D. 44

Q.32 In a certain code language, 'chest wife sip' is coded as 'wv ua nv' and 'sip unit ghost' is coded as 'ef wv ie'. How is 'sip' coded in the given language?

- Ans**
- ☐ A. ef
 - ☐ B. nv
 - ☒ C. wv
 - ☐ D. ua

Q.33 In a certain code language, 'TERM' is coded as '3812' and 'RATE' is coded as '1438'. What is the code for 'A' in the given code language?

- Ans**
- ☐ A. 2
 - ☐ B. 3
 - ☐ C. 1
 - ☒ D. 4

Q.34 Which of the following letter-clusters will replace the question mark (?) in the given series to make it logically complete?

DGJL GJMO ? MPSU PSVX

- Ans**
- ☐ A. JMPS
 - ☐ B. JMSP
 - ☒ C. JMPR
 - ☐ D. JMRP

Q.35 What will come in the place of '?' in the following equation, if '+' and '-' are interchanged and 'x' and '÷' are interchanged?
 $231 \div 3 - 721 \times 7 + 24 = ?$

- Ans**
- ☐ A. 771
 - ☐ B. 773
 - ☒ C. 772
 - ☐ D. 774

Q.36 Three of the following four letter-clusters are alike in a certain way and thus form a group. Which is the letter-cluster that does NOT belong to that group?
(Note: The odd one out is not based on the number of consonants/vowels or their positions in the letter-cluster.)

- Ans**
- ☒ A. MKG
 - ☒ B. GEA
 - ☒ C. OMI
 - ☒ D. SPM

Q.37 What should come in place of '?' in the given series?

9 14 21 30 41 ?

- Ans**
- ☒ A. 49
 - ☒ B. 52
 - ☒ C. 50
 - ☒ D. 54

Q.38 In this question, a group of number/symbol is coded using letter codes as per the codes given below and the conditions which follow. The correct combination of codes following the conditions is your answer. If none of the conditions follow, then codes for the respective Number/Symbol are to be followed directly as given in the table.

Number/symbol 4 @ 1 # 8 % 3 & 6 \$ 2 + 9 5

Code J M H T A P K F B R D U L Q

Conditions –

- (i) If the first and last elements are numbers and the first element is a smaller number than the last element, the first element is to be coded with the code of the last element.
- (ii) If the second and fourth elements are symbols, interchange the codes of the second and fourth elements.
- (iii) If the third element is an odd number, the third element is to be coded as ©.

What is the code for the following group of numbers?
28369

- Ans**
- ☒ A. LA©BL
 - ☒ B. DAKBL
 - ☒ C. LAKBD
 - ☒ D. LAKBL

Q.39 A question is followed by two statements numbered (I) and (II). You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and decide the appropriate answer.

Question:

A, B, C, D and E are sitting around a circular table, facing the centre. Who sits to the immediate right of B?

Statements:

- (I) B sits to the immediate right of A. C sits to the immediate left of E.
- (II) D sits second to the right of A. C sits to the immediate right of D.

- Ans**
- ☒ A. Data in statement I alone is sufficient to answer the question while data in statement II is not.
 - ☒ B. Data in statement II alone is sufficient to answer the question while data in statement I is not.
 - ☒ C. Data in statements I and II together are NOT sufficient to answer the question.
 - ☒ D. Data in statements I and II together are sufficient to answer the question.

Q.40 What will come in the place of '?' in the following equation, if '+' and 'x' are interchanged and '-' and '÷' are interchanged?
 $7 \times 32 - 4 + 5 \div 12 = ?$

- Ans**
- ☒ A. 17
 - ☒ B. 87
 - ☒ C. 35
 - ☒ D. 63

Q.41 Z is the mother of N. N is the sister of T. O is the father of U. U is the husband of T. How is Z related to O?

- Ans**
- ☒ A. Wife's sister
 - ☒ B. Son's wife's mother
 - ☒ C. Sister
 - ☒ D. Mother

Q.42 GDSV is related to LBXT in a certain way based on the English alphabetical order. In the same way, QZCR is related to VXHP. To which of the given options is AVMN related to, following the same logic?

- Ans**
- ☒ A. GSQL
 - ☒ B. ESQM
 - ☒ C. GUSK
 - ☒ D. FTRL

Q.43 Seven boxes, A, B, C, D, G, H and I, are kept one over the other, but not necessarily in the same order.

D is kept second from the bottom. Only three boxes are kept between D and C. I is kept at one of the positions below D. Only H is kept between C and B. A is kept at one of the positions above C.

How many boxes are kept between G and C?

- Ans**
- ☒ A. One
 - ☒ B. Three
 - ☒ C. Four
 - ☒ D. Two

Q.44 Select the pair which follows the same pattern as that followed by the two pairs given below. Both pairs follow the same pattern.

SUX-TVY

GIL-HJM

- Ans**
- ☒ A. TVY-UWZ
 - ☒ B. TUW-UWZ
 - ☒ C. TVY-TWY
 - ☒ D. TUW-TVY

Q.45 In this question, a question is followed by two statements numbered (I) and (II). You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and decide the appropriate answer.

Question:

Five projects – Orion, Nimbus, Vertex, Pulse and Zenith – were completed on different days from Monday to Friday of the same week. On which day was Pulse completed?

Statements:

(I) Pulse was completed one day before Zenith.

(II) Zenith was completed on Friday.

- Ans**
- ☒ A. Data in Statement II alone is sufficient to answer the question while data in Statement I is not
 - ☒ B. Both statements I and II together are NOT sufficient to answer the question
 - ☒ C. Both statements I and II together (and not statement I alone or statement II alone) are sufficient to answer the question.
 - ☒ D. Data in Statement I alone is sufficient to answer the question while data in Statement II is not

Q.46 What should come in place of '?' in the given series?
28, 32, 40, 52, 68 ?

- Ans**
- ☒ A. 86
 - ☒ B. 87
 - ☒ C. 88
 - ☒ D. 89

Q.47 The position(s) of how many letters will remain unchanged if each letter in the word SKYLINE is arranged in alphabetical order?

- Ans**
- ☒ A. Three
 - ☒ B. None
 - ☒ C. One
 - ☒ D. Two

Q.48 Each vowel in the word COMPUTE is changed to the letter immediately following 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 will be fourth from the left in the new group of letters thus formed?

- Ans**
- ☒ A. H
 - ☒ B. J
 - ☒ C. O
 - ☒ D. P

Q.49 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.)

- Ans**
- ☒ A. FIE
 - ☒ B. OQN
 - ☒ C. ACZ
 - ☒ D. MOL

- Q.50** A, B, C, D, E and F live on six different floors of the same building. The lowermost floor in the building is numbered 1, the floor above it, number 2 and so on till the topmost floor is numbered 6.
The product of floors on which D and C live is 10. A lives immediately above E. The sum of floors on which B and D live is 11.
What is the product of floors on which A and C live?

Ans ☒ A. 8
☐ B. 2
☐ C. 6
☐ D. 4

Section : General Science

- Q.51** A student places an object 30 cm in front of a convex lens of focal length 15 cm. Based on the lens formula, where will the image be formed?

Ans ☒ A. 30 cm on the other side of the lens
☐ B. 60 cm on the other side of the lens
☐ C. 15 cm on the other side of the lens
☐ D. 45 cm on the other side of the lens

- Q.52** Why is it essential for an organism's body to carry out life processes during periods of rest?

Ans ☐ A. To reset the brain's functions
☐ B. To speed up reproduction
☐ C. To prepare the body for sudden movement
☒ D. To ensure vital body functions continue for survival

- Q.53** An atom of phosphorus has an electronic configuration of 2, 8, 5. What is its valency and how does it attain stability?

Ans ☒ A. Phosphorus has a valency of 3, as it gains three electrons to achieve a stable configuration.
☐ B. Phosphorus has a valency of 5, equal to the number of valence electrons.
☐ C. Phosphorus has a valency of 5, as it loses five electrons.
☐ D. Phosphorus has a valency of 3, as it loses three electrons to achieve stability.

- Q.54** A concave lens has a focal length of 30 cm. At what distance should the object from the lens be placed so that it forms an image at 20 cm from the lens?

Ans ☐ A. 20 cm behind the lens
☐ B. 40 cm in front of the lens
☒ C. 60 cm in front of the lens
☐ D. 80 cm behind the lens

- Q.55** Which meristem is located at the base of certain plants and helps them regenerate after cutting?

Ans ☐ A. Girth Meristem
☐ B. Lateral Meristem
☐ C. Apical Meristem
☒ D. Intercalary Meristem

- Q.56** Which scenario results in zero work done by a constant force?

Ans ☐ A. A force acts at an acute angle to the direction of motion
☒ B. A force acts perpendicular to the direction of motion
☐ C. A force acts against the direction of displacement
☐ D. A force acts parallel to the direction of motion

Q.57 Which among the following does NOT play a direct role in causing surface ocean currents?

- Ans ☒ A. Amount of rainfall over the ocean
☐ B. Temperature of ocean surface
☐ C. Wind blowing across the ocean
☐ D. Rotation of the Earth

Q.58 A prism produces a spectrum when white light passes through it. If the refractive index for red light is 1.50 and for violet light is 1.54, what does this suggest about the behavior of the different colors in the prism?

- Ans ☐ A. Both colors bend equally
☐ B. Red light bends more than violet light
☒ C. Violet light bends more than red light
☐ D. Both colors travel without bending

Q.59 A man carries a heavy bag horizontally at a uniform speed across a level floor. What is the work done by the force exerted by the man on the bag in the direction of motion?

- Ans ☐ A. The work done is negative because the bag is heavy.
☐ B. The work done is positive because the man carries the bag forward.
☐ C. The work done is negative since the force resists motion.
☒ D. The work done is zero because the force is perpendicular to the displacement.

Q.60 A child's near point is 50 cm, but normal near point for a human eye is 25 cm. What is the required power of the lens to correct the child's near point?

- Ans ☐ A. -2.0 D
☒ B. +2.0 D
☐ C. -1.0 D
☐ D. +1.0 D

Q.61 When a straight conductor of fixed length is placed in a uniform magnetic field and the current through it is doubled, the force on the conductor also doubles. Which of the following underlying principles explains this proportional relationship?

- Ans ☐ A. The force is inversely proportional to the current
☒ B. The force is directly proportional to the current
☐ C. The force is determined by the direction of the field
☐ D. The force depends only on the conductor's length

Q.62 A student records the motion of a ball that travels from point Q to point R, then returns to point S, all along the same straight path. If the ball covers 70 meters to reach R from Q and then 30 meters from R to S, which best represents the physical difference between the total path length and displacement for this journey?

- Ans ☐ A. The path length and displacement are equal because the motion occurs along a straight path.
☐ B. The displacement is always greater than the path length because it measures the shortest route.
☒ C. The path length is the total distance travelled, while displacement is the net straight-line distance from Q to S.
☐ D. The path length depends only on the final position, while displacement depends on the entire journey.

Q.63 Which method can best be used to confirm the presence of a colloidal mixture due to the Tyndall effect?

- Ans ☐ A. Heating the mixture to evaporate the solvent
☒ B. Shining a beam of light through the mixture and observing scattered light
☐ C. Filtering the mixture using filter paper
☐ D. Allowing the mixture to stand undisturbed for several hours

Q.64 If the object is placed at the focus of a convex lens, the image will be:

- Ans**
- ✓ A. at infinity, real and highly enlarged
 - ✗ B. at 2F, real and of same size
 - ✗ C. at infinity, virtual and reduced
 - ✗ D. between F and 2F, real and inverted

Q.65 In reactivity series metals are arranged in decreasing order of their activity. The metal which lies at the top of series is:

- Ans**
- ✓ A. Potassium
 - ✗ B. Sodium
 - ✗ C. Aluminium
 - ✗ D. Magnesium

Q.66 To carry nerve impulses over long distances, a neural prosthetic should mimic which part of a neuron?

- Ans**
- ✓ A. The elongated axon with myelin sheath
 - ✗ B. The cell body containing the nucleus
 - ✗ C. The synaptic terminals at the end of the neuron
 - ✗ D. The branching dendrites near the cell body

Q.67 A scientist is studying disfunctioning of smooth endoplasmic reticulum in animal cells. Which cellular process is most likely to be directly affected by this change?

- Ans**
- ✗ A. Protein synthesis and modification
 - ✗ B. Energy production and ATP synthesis
 - ✗ C. Cell division and chromosome separation
 - ✓ D. Synthesis of lipids and detoxification of drugs

Q.68 The unit cell of the nervous system is called as _____.

- Ans**
- ✗ A. Axon
 - ✗ B. Muscle fibre
 - ✗ C. Dendrite
 - ✓ D. Neuron

Q.69 Which of the following is the reason for having a scientific system of classifying living organisms?

- Ans**
- ✓ A. To avoid confusion in naming and grouping organisms
 - ✗ B. To improve crop production
 - ✗ C. To enhance reproduction in organisms
 - ✗ D. To measure the lifespan of organisms

Q.70 Which method is commonly used to separate a pure solid from its solution in a homogeneous mixture?

- Ans**
- ✗ A. Filtration
 - ✗ B. Decantation
 - ✓ C. Crystallization
 - ✗ D. Distillation

Q.71 Why are saturated hydrocarbons generally unreactive under normal conditions?

- Ans**
- ✗ A. They react spontaneously with oxygen at room temperature.
 - ✗ B. They are highly polar and dissolve in water, preventing reactions.
 - ✗ C. They contain weak pi (π) bonds that break easily.
 - ✓ D. They contain strong sigma (σ) bonds that require high energy to break.

Q.72 Which of the following options correctly describes a suspension?

- Ans
- ☒ A. The particles in a suspension settle over time and can be separated by filtration.
 - ☐ B. Suspensions are stable and do not require stirring.
 - ☐ C. The particles in a suspension scatter light but do not settle.
 - ☐ D. Suspensions are always transparent like true solutions.

Q.73 Which statement best describes why ethanol is considered an important fuel?

- Ans
- ☐ A. It is the only liquid fuel used in vehicles worldwide.
 - ☐ B. It is mainly used for making plastics in the industry.
 - ☐ C. It is primarily used as a food preservative.
 - ☒ D. It burns cleanly and produces less smoke compared to many traditional fuels.

Q.74 If you shout to your friend who is at the same distance from you across a playground and is also touching the other end of a steel rail, through which path will your friend hear your voice first, and why?

- Ans
- ☐ A. Across the playground because sound travels more easily through air than through solids.
 - ☐ B. Through the steel rail because solids make every sound louder than air.
 - ☒ C. Through the steel rail because sound travels much faster in solids than in air.
 - ☐ D. Across the playground because sound does not travel efficiently through steel.

Q.75 Which of the following plant groups includes a green mat-like plant growing on a damp wall that lacks true roots and vascular tissues?

- Ans
- ☐ A. Pteridophyta
 - ☒ B. Bryophyta
 - ☐ C. Lichen
 - ☐ D. Thallophyta

Q.76 Which of the following is NOT a branched alkane?

- Ans
- ☐ A. Isopentane
 - ☐ B. Isobutane
 - ☒ C. N-pentane
 - ☐ D. Neopentane

Q.77 A circular coil of radius r carries current I . If the number of turns of the coil is doubled (keeping radius and current same), the magnetic field at the centre will _____ .

- Ans
- ☐ A. Remain unchanged
 - ☒ B. Double
 - ☐ C. Reduce to half
 - ☐ D. Become four times

Q.78 Why are electrons not included in the calculation of an atom's mass number?

- Ans
- ☐ A. Electrons outnumber protons and neutrons
 - ☐ B. Electrons are heavier than protons and neutrons
 - ☐ C. Electrons determine the atom's charge only
 - ☒ D. Electrons have negligible mass compared to protons and neutrons

Q.79 Why does the number of protons in an atom never change during chemical reactions?

- Ans
- ☐ A. Protons move to other atoms easily
 - ☒ B. Protons are tightly bound in the nucleus
 - ☐ C. Protons combine with electrons to form neutrons
 - ☐ D. Protons stay in the electron cloud

Q.80 A cyclist covers the first 6 kilometers of her journey in 20 minutes and the next 9 kilometers in 30 minutes. What is her average speed for the entire trip in kilometers per hour (km/h)?

- Ans**
- ☐ A. 20 km/h
 - ☐ B. 12 km/h
 - ☐ C. 15 km/h
 - ☒ D. 18 km/h

Q.81 A student observes a decomposition reaction where a pale yellow powder changes into a red-brown solid and a colourless gas upon heating. Which compound was used?

- Ans**
- ☒ A. Lead nitrate
 - ☐ B. Silver bromide
 - ☐ C. Zinc carbonate
 - ☐ D. Potassium permanganate

Q.82 If a constant force acts in the direction of motion on an object, what does the work-energy theorem say about its kinetic energy?

- Ans**
- ☐ A. Only the potential energy changes.
 - ☐ B. The object's kinetic energy decreases.
 - ☒ C. The object's kinetic energy increases.
 - ☐ D. The object's kinetic energy stays the same.

Q.83 How can a persistent warmer atmosphere alter precipitation patterns within the water cycle?

- Ans**
- ☐ A. It will result in less rainfall worldwide
 - ☐ B. It will always increase gentle rainfall everywhere
 - ☐ C. It will lead to more snowfall in all regions
 - ☒ D. It can cause more intense and irregular rainfall events

Q.84 A ray of light enters a glass prism from air. Which change occurs to the speed of the light as it enters the prism?

- Ans**
- ☒ A. The speed of light decreases inside the prism
 - ☐ B. The speed of light remains unchanged
 - ☐ C. The speed of light increases inside the prism
 - ☐ D. Light moves infinitely fast in glass

Q.85 What is the charge and location of an electron in an atom?

- Ans**
- ☐ A. Negative, inside nucleus
 - ☐ B. Positive, inside nucleus
 - ☒ C. Negative, outside nucleus
 - ☐ D. Neutral, inside nucleus

Q.86 Which of the following real-life scenarios best demonstrates how human activity can reduce biodiversity in an ecosystem?

- Ans**
- ☒ A. Deforestation causing species loss
 - ☐ B. Seasonal migration of birds
 - ☐ C. Animals moving to a new region
 - ☐ D. Natural succession in a grassland

Q.87 Which of the following is a reason, scientists classify living organisms?

- Ans**
- ☐ A. To ensure that all species become similar
 - ☐ B. To change the natural habitat of organisms
 - ☐ C. To make all organisms genetically identical
 - ☒ D. To organize organisms by similarities and differences

Q.88 In a reflex arc, the receptor first detects the_____.

- Ans**
- ☐ A. Effector
 - ☒ B. Stimulus
 - ☐ C. Hormone
 - ☐ D. Response

Q.89 Which of the following indicators turns red in acidic solution and blue in basic solution?

- Ans**
- ☐ A. Turmeric
 - ☐ B. Methyl orange
 - ☐ C. Phenolphthalein
 - ☒ D. Litmus

Q.90 Which of the following is a major reason for the rich biodiversity found in the Indian Himalayas?

- Ans**
- ☐ A. Even distribution of rainfall
 - ☐ B. Consistent soil fertility across the nation
 - ☒ C. Variation in altitude and climate
 - ☐ D. Active vegetation and farming

Section : General Awareness

Q.91 Which initiative of the Union Ministry of Panchayati Raj received the Gold Award at the National Awards for e-Governance (NAeG) 2026 under the category 'Digital Transformation by Use of Data Analytics in Digital Platforms by Central Ministries/States/UTs'?

- Ans**
- ☐ A. AuditOnline Platform
 - ☒ B. Panchayat Advancement Index
 - ☐ C. e-GramSwaraj Portal
 - ☐ D. SVAMITVA Scheme

Q.92 In which of these states was "CLAP for Children" launched in September 2025 to make cities safer and more supportive for children?

- Ans**
- ☐ A. Karnataka
 - ☐ B. Andhra Pradesh
 - ☒ C. Telangana
 - ☐ D. Maharashtra

Q.93 Which of the following conducted the successful flight-test of the Pinaka Long Range Guided Rocket on July 8, 2026?

- Ans**
- ☐ A. Indian Army
 - ☐ B. Hindustan Aeronautics Limited
 - ☒ C. Defence Research & Development Organisation
 - ☐ D. Bharat Dynamics Limited

Q.94 The Union Budget 2026–27 proposed upgrading which of the following institutions into the National Institute of Hospitality?

- Ans**
- ☒ A. National Council for Hotel Management and Catering Technology
 - ☐ B. National Skill Development Corporation
 - ☐ C. Indian Institute of Tourism and Travel Management
 - ☐ D. Indian Institute of Food Processing Technology

Q.95 The 13th edition of the India–Kyrgyzstan Joint Special Forces Exercise KHANJAR, held in February 2026, commenced in which state?

- Ans**
- ☒ A. Assam
 - ☐ B. Arunachal Pradesh
 - ☐ C. Uttarakhand
 - ☐ D. Sikkim

Q.96 In July 2026, the Defence Acquisition Council (DAC) approved the procurement of the AKASH TARANG system for which armed force?

- Ans**
- ☐ A. Indian Navy
 - ☐ B. Indian Air Force
 - ☒ C. Indian Army
 - ☐ D. Indian Coast Guard

Q.97 The Memorandum of Understanding (MoU) signed between the Digital India BHASHINI Division (DIBD) and the Reserve Bank of India (RBI) in February 2026 primarily aims at which of the following purposes?

- Ans**
- ☐ A. Develop a comprehensive Central Bank Digital Currency (CBDC) platform for nationwide retail and wholesale digital transactions
 - ☒ B. Integrate language AI models to enhance multilingual banking access and promote financial inclusion
 - ☐ C. Develop a comprehensive national financial fraud detection and prevention framework to enhance banking security
 - ☐ D. Create a unified digital payment gateway to enable seamless interoperability and real-time transactions across banks and financial institutions

Q.98 According to the Union Budget 2026–27, the Bio-Pharma SHAKTI scheme has been proposed with an outlay of _____.

- Ans**
- ☐ A. ₹15,000 crore over five years
 - ☒ B. ₹10,000 crore over five years
 - ☐ C. ₹12,000 crore over five years
 - ☐ D. ₹8,000 crore over five years

Q.99 Which athlete won the men's 400m hurdles title at the Indian Athletics Series 2026 in Thiruvananthapuram, Kerala?

- Ans**
- ☐ A. Vignesh B
 - ☒ B. Santhosh Kumar Tamilarasan
 - ☐ C. Amit Kumar
 - ☐ D. Ayyasamy Dharun

Q.100 Which organisation organised the Regional AIM SUMVAAD–North East Chapter 2026 in July 2026?

- Ans**
- ☐ A. Defence Research and Development Organisation (DRDO)
 - ☐ B. Indian Space Research Organisation (ISRO)
 - ☒ C. Atal Innovation Mission (AIM), NITI Aayog
 - ☐ D. National Skill Development Corporation (NSDC)



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CEN 02/2026 - Technician Grade I Signal and Technician Grade III



Test Date	09/10/2026
Test Time	9:00 AM - 10:30 AM
Subject	RRB Technician Grade III

*** Note**

Correct Answer will carry 1 mark per Question.

Incorrect Answer will carry 1/3 Negative mark per Question.

1. Options shown in green color with a tick icon are correct.

2. Chosen option on the right of the question indicates the option selected by the candidate.

Section : Mathematics

Q.1 The 6-digit number 2A683B is divisible by 3. Find the least possible value of (A+B).

- Ans
- ☒ A. 8
 - ☒ B. 5
 - ☒ C. 11
 - ☒ D. 2

Q.2 A man has invested ₹57500 at a rate of 8% per annum simple interest for 4 years. Find the amount (in ₹) that he will receive after 4 years.

- Ans
- ☒ A. 18400
 - ☒ B. 75900
 - ☒ C. 76900
 - ☒ D. 19400

Q.3 A, B, C and D are four points in order on a circle such that C is exactly opposite to A and D is exactly opposite to B. Which of the followings is NOT true?

- Ans
- ☒ A. AC = CD
 - ☒ B. AD = BC
 - ☒ C. AC = BD
 - ☒ D. AB = CD

Q.4 Find the value of $\frac{\tan A}{1 - \sqrt{\operatorname{cosec}^2 A - 1}} + \frac{\cot A}{1 - \sqrt{\sec^2 A - 1}}$.

- Ans
- ☒ A. $1 + \tan A + \cot A$
 - ☒ B. $1 - \tan A + \cot A$
 - ☒ C. $1 + \tan A - \cot A$
 - ☒ D. $1 - \tan A - \cot A$

Q.5 If $x^2 + \frac{1}{x^2} = 23$, then the value of $\frac{4x}{5x^2 - 3x + 5}$ is:

- Ans
- ☒ A. $\frac{21}{10}$
 - ☒ B. $\frac{1}{5}$
 - ☒ C. $\frac{11}{3}$
 - ☒ D. $\frac{2}{11}$

Q.6 The mean proportion of X and $(20 - 4\sqrt{24})^{-\frac{1}{2}}$ is $\frac{1}{2}\sqrt{10 + 4\sqrt{6}}$, the

- Ans
- ☒ A. $\sqrt{5 - \sqrt{6}}$
 - ☒ B. $\sqrt{5 + 2\sqrt{6}}$
 - ☒ C. $\sqrt{5 - 2\sqrt{3}}$
 - ☒ D. $\sqrt{5 + 2\sqrt{3}}$

Q.7 Find the smallest number divisible by 5, 10 and 15.

- Ans
- ☒ A. 30
 - ☒ B. 60
 - ☒ C. 45
 - ☒ D. 20

Q.8 The cost price of an article is ₹800. It is sold at a profit of 15%. What is the selling price of the article?

- Ans
- ☒ A. ₹850
 - ☒ B. ₹920
 - ☒ C. ₹900
 - ☒ D. ₹880

Q.9 AB is parallel to CD. A transversal PQ intersects AB and CD at E and F, respectively, and $\angle PEB = 38^\circ$. G is a point between AB and CD such that $\angle BEG = 24^\circ$ and $\angle GFE = 29^\circ$. What is the measure of $\angle EGF$?

- Ans
- ☒ A. 47°
 - ☒ B. 21°
 - ☒ C. 33°
 - ☒ D. 27°

Q.10 A class is divided into three sections A, B, and C.

Section A has 25 students with an average score of 70.

Section B has 35 students with an average score of 60.

Section C has 40 students.

If the combined average score of all 100 students is 63, what is the average score of Section C?

- Ans
- ☒ A. 61.25
 - ☒ B. 67.25
 - ☒ C. 64.25
 - ☒ D. 58.25

Q.11 Rahul travels three equal distances on his cycle with the speeds of 8 km/hr, 10 km/hr and 15 km/hr and takes a total time of 2 hours 27 minutes. The total distance (in km) covered by him is:

- Ans**
- ☐ A. 27.5 km
 - ☐ B. 28.5 km
 - ☐ C. 27.2 km
 - ☒ D. 25.2 km

Q.12 If 20% of k is 10 less than 1800% of 20, then k is:

- Ans**
- ☐ A. 1710
 - ☐ B. 1730
 - ☐ C. 1790
 - ☒ D. 1750

Q.13 Pipe C can fill a tank in 10 hours and Pipe D can fill it in 15 hours. If both pipes are opened together, how much time (in hours) will it take to fill the tank?

- Ans**
- ☐ A. 8
 - ☐ B. 10
 - ☒ C. 6
 - ☐ D. 5

Q.14 A sum is invested for 2 years at compound interest, compounded annually. At an annual interest rate of $x\%$, the amount becomes ₹24,200. If the annual interest rate is $(x + 10)\%$, the amount becomes ₹28,800. What is the value of x ?

- Ans**
- ☐ A. 20
 - ☐ B. 15
 - ☐ C. 5
 - ☒ D. 10

Q.15 An individual invests ₹10,000 at an annual compound interest rate of 5%. Find the total amount after 3 years.

- Ans**
- ☒ A. ₹11,576.25
 - ☐ B. ₹12,000
 - ☐ C. ₹11,000
 - ☐ D. ₹11,200.50

Q.16 The sum of the present ages of Tommy and Arthur is 50 years. Four years ago, Arthur's age was half of Tommy's age at that time. What is Tommy's present age (in years)?

- Ans**
- ☐ A. 37
 - ☐ B. 28
 - ☒ C. 32
 - ☐ D. 39

Q.17 A shopkeeper bought 6 identical mobile phones for a total of ₹12,000. He then sold 2 of these mobile phones for a total of ₹10,000. What is his gain percentage on the phones sold?

- Ans**
- ☐ A. 153%
 - ☐ B. 152%
 - ☒ C. 150%
 - ☐ D. 148%

Q.18 Select the smallest ratio among following.

- A- 5 : 7
- B- 4 : 5
- C- 9 : 10
- D- 3 : 4

Ans ☒ A. B
☒ B. C
☒ C. A
☒ D. D

Q.19 A trapezium has parallel sides 18 cm and 12 cm. The height of the trapezium is equal to the average of the lengths of the two parallel sides. What is the area of the trapezium?

Ans ☒ A. 220 cm²
☒ B. 212 cm²
☒ C. 225 cm²
☒ D. 200 cm²

Q.20 Three taps X, Y, and Z can fill a tank in 15 minutes, 12 minutes and 20 minutes, respectively. If Y is kept open all the time whereas X and Z are open for one hour alternately starting with X, then the tank will be filling in:

Ans ☒ A. 7 hours
☒ B. 6 hours
☒ C. 8 hours
☒ D. 5 hours

Q.21 A retailer gives two successive discounts of 3y% and 15% on an item, resulting in a single equivalent discount of 28%. What is the value of y? (Rounded off to the nearest integer)

Ans ☒ A. 6
☒ B. 7
☒ C. 5
☒ D. 4

Q.22 The following figures give the temperature (in °C) of city X for a week in the month of March. Find the arithmetic mean (in °C) of the temperatures by the direct method.
Temperature recorded: 32.3, 34.5, 33.1, 32.7, 35.3, 33.2, 34.1

Ans ☒ A. 33.6
☒ B. 32.8
☒ C. 33.8
☒ D. 33.4

Q.23 A rectangular sheet of paper, 132 cm × 12 cm, is rolled along its length to form a cylinder. Find the volume of the cylinder so formed.

Ans ☒ A. 16326 cm³
☒ B. 16623 cm³
☒ C. 16632 cm³
☒ D. 16362 cm³

Q.24 In a 2520 m circular race, Siddharth finishes one round in 90 seconds and Yash finishes one round in 45 seconds. How many different meeting points are there on the circumference if they are running in the opposite directions?

Ans ☒ A. 9
☒ B. 13
☒ C. 12
☒ D. 3

Q.25 The average sale of cars by a dealer per day in the month of March, other than on Saturdays and Sundays, is 116. The average sale of cars per day on Sundays is 126. What is the average sale of cars per day on Saturdays, if the first Saturday is on the 3rd of March and average sale of cars per day for the whole month is 121?

- Ans** ☒ A. 139
☒ B. 135
☒ C. 138
☒ D. 143

Section : General Intelligence and Reasoning

Q.26 In a certain code language, 'cup drama tale' is coded as 'fi gh qf' and 'ear tale mask' is coded as 'pq dy fi'. How is 'tale' coded in the given language?

- Ans** ☒ A. fi
☒ B. pq
☒ C. qf
☒ D. gh

Q.27 What will come in the place of '?' in the following equation, if '+' and '÷' are interchanged and '-' and 'x' are interchanged?

$$195 + 3 \times 22 - 6 \div 117 = ?$$

- Ans** ☒ A. 50
☒ B. 51
☒ C. 57
☒ D. 43

Q.28 Seven people, A, B, C, D, X, Y and Z are sitting in a row, facing north. Only X sits to the right of C. Only three people sit between C and D. A sits third to the left of Y. B is not an immediate neighbour of C. Who sits third to the right of D?

- Ans** ☒ A. A
☒ B. B
☒ C. Z
☒ D. X

Q.29 If 'A' stands for '÷', 'B' stands for 'x', 'C' stands for '+', and 'D' stands for '-', what will come in place of the question mark (?) in the following equation?

$$10 \text{ B } 5 \text{ D } 24 \text{ A } 4 \text{ C } 8 = ? \text{ D } 8$$

- Ans** ☒ A. 50
☒ B. 70
☒ C. 40
☒ D. 60

Q.30 P, Q, R, S, T, U and V live on seven different floors of the same building. The lowermost floor in the building is numbered 1, the floor above it, number 2 and so on till the topmost floor is numbered 7. R lives on an even numbered floor. Only three people live between R and U. T lives immediately above V but immediately below Q. Sum of floor numbers of R and S is more than 10. Following a certain logic, S is related to floor number 5 in the given arrangement in the same way as Q is related to floor number 3. To which of the following floor numbers is T related, following the same logic?

- Ans** ☒ A. 1
☒ B. 2
☒ C. 6
☒ D. 4

Q.31 IHEF is related to BAXY in a certain way based on the English alphabetical order. In the same way, XWTU is related to QPMN. To which of the following is SROP related, following the same logic?

- Ans**
- ☒ A. LLGP
 - ☒ B. LJGI
 - ☒ C. LKHI
 - ☒ D. LKGI

Q.32 In a certain code language, 'FACE' is coded as '6348' and 'CAKE' is coded as '6734'. What is the code for 'K' in the given code language?

- Ans**
- ☒ A. 6
 - ☒ B. 7
 - ☒ C. 4
 - ☒ D. 3

Q.33 Refer to the following letter series and answer the question. Counting to be done from left to right only.

(Left) P O U S I K J Y H B V F T E B G T E X E H Y (Right)

How many such consonants are there each of which is immediately preceded by a vowel and also immediately followed by a vowel?

- Ans**
- ☒ A. Three
 - ☒ B. One
 - ☒ C. Two
 - ☒ D. None

Q.34 Rohit starts from Point A and drives 10 km towards north. He then takes a left turn, drives 12 km, turns left and drives 11 km. He then takes a left turn and drives 15 km. He takes a final left turn, drives 1 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-degree turns only unless specified.)

- Ans**
- ☒ A. 4 km to the west
 - ☒ B. 3 km to the west
 - ☒ C. 3 km to the east
 - ☒ D. 4 km to the east

Q.35 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 is the one that 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.)

- Ans**
- ☒ A. AB - EG
 - ☒ B. JH - KM
 - ☒ C. LM - PR
 - ☒ D. XY - BD

Q.36 In this question, a question is followed by two statements numbered (I) and (II). You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and decide the appropriate answer.

Among 5 poles, A, B, D, I and Y each having a different height, which pole is the tallest?

(I) D is taller than only one pole. I is shorter than B but taller than A.

(II) I is taller than Y.

- Ans**
- ☒ A. Data in Statement I alone is sufficient to answer the question while data in statement II is not
 - ☒ B. Both statements I and II together are NOT sufficient to answer the question
 - ☒ C. Data in Statement II alone is sufficient to answer the question while data in statement I is not
 - ☒ D. Both statements I and II together (and not statement I alone or statement II alone) are sufficient to answer the question

Q.37 A question is followed by two statements numbered (I) and (II). You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and decide the appropriate answer.

Question:

Among 5 poles, W, O, K, G and Y each having a different height, which pole is the shortest?

Statements:

I. Y is shorter than O. G is shorter than W.

II. G is taller than Y.

- Ans**
- ☐ A. Data in Statement I alone is sufficient to answer the question while data in statement II is not
 - ☐ B. Both statements I and II together (and not statement I alone or statement II alone) are sufficient to answer the question.
 - ☐ C. Data in Statement II alone is sufficient to answer the question while data in statement I is not
 - ☒ D. Both statements I and II together are NOT sufficient to answer the question

Q.38 In this question, a group of numbers/symbols is coded using letter codes as per the codes given below and the conditions which follow. The correct combination of codes following the conditions is your answer. If none of the conditions follow, then the codes for the respective number/symbol are to be followed directly as given in the table.

Number/Symbol 6 * % 1 + 8 @ 3 ^ \$

Code X Z C E H K N Q T W

Conditions –

- (i) If the first element is a number and the last a symbol, the codes for these two (the first and the last elements) are to be interchanged.
- (ii) If the first element is an odd number and the last an even number, the first and last elements are to be coded as ©.
- (iii) If both the second and third elements are odd numbers, the third element is to be coded as the code for the second element.

What is the code for the following group of number-symbols?

1 8 + 6 \$

- Ans**
- ☐ A. W K K X E
 - ☒ B. W K H X E
 - ☐ C. E H H X W
 - ☐ D. E K H X W

Q.39 Select the pair that follows the same pattern as that followed by the two pairs given below. Both pairs follow the same pattern.

RVR–NRN

SWS–OSO

- Ans**
- ☐ A. LPL–GLG
 - ☐ B. LOJ–GKG
 - ☐ C. LOJ–HLH
 - ☒ D. LPL–HLH

Q.40 What should come in place of ? in the given series based on the English alphabetical order?

AZ, BY, CX, DW, ?

- Ans**
- ☐ A. FV
 - ☐ B. FU
 - ☒ C. EV
 - ☐ D. EU

Q.41 What should come in place of '?' in the given series?

8 10 13 18 25 ?

- Ans
- ☒ A. 33
 - ☒ B. 31
 - ☒ C. 36
 - ☒ D. 37

Q.42 In the word MARKET if you rearrange all the letters in alphabetic order, how many letters are in the same positions as in the original word ?

- Ans
- ☒ A. Two
 - ☒ B. None
 - ☒ C. Three
 - ☒ D. One

Q.43 Each letter in the word LANGUID is arranged in alphabetical order. How many letters are there in the English alphabetical order between the letter which is third from the left and the one which is first from the right in the new letter cluster thus formed?

- Ans
- ☒ A. 13
 - ☒ B. 16
 - ☒ C. 12
 - ☒ D. 14

Q.44 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 letter-cluster 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 pair.)

- Ans
- ☒ A. NJ-JI
 - ☒ B. IE-FB
 - ☒ C. EA-BX
 - ☒ D. QM-NJ

Q.45 24 is related to 192 following a certain logic. Following the same logic, 19 is related to 152. To which of the following is 32 related, following the same logic?
(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.)

- Ans
- ☒ A. 216
 - ☒ B. 236
 - ☒ C. 226
 - ☒ D. 256

Q.46 What should come in place of the question mark (?) in the given series?

24 12 12 18 36 ?

- Ans
- ☒ A. 90
 - ☒ B. 75
 - ☒ C. 80
 - ☒ D. 85

Q.47 Refer to the following letter series and answer the question.
Counting to be done from left to right only.
(Left) M B Y Q U Z S H C E R A K T D O F X I G W (Right)
How many such consonants are there each of which is immediately preceded by a vowel and also immediately followed by a vowel?

- Ans ☒ A. One
☐ B. Three
☐ C. Two
☐ D. None

Q.48 If + means -, - means $\times$, $\times$ means $\div$, and $\div$ means +, what is the value of:
 $5 - 16 \div 4 + 12 \times 3 = ?$

- Ans ☒ A. 80
☐ B. 95
☐ C. 90
☐ D. 85

Q.49 S is the brother of G. G is the father of U. H is the father of M. M is the son of U. How is H related to S?

- Ans ☐ A. Brother's wife's brother
☐ B. Husband
☐ C. Sister's husband
☒ D. Brother's daughter's husband

Q.50 A, B, C, D, E and F live on six different floors of the same building. The lowermost floor in the building is numbered 1, the floor above it, number 2 and so on till the topmost floor is numbered 6.

E lives on a floor which is a prime number. The product of floors on which E and A live is 8. B lives immediately above F. The sum of floors on which A and C lives is 7. What is the sum of floors on which A and B live?

- Ans ☐ A. 9
☐ B. 11
☒ C. 10
☐ D. 8

Section : General Science

Q.51 A science project requires students to adjust a first-class lever to lift a heavy object with the least amount of effort force. Which adjustment will give them the greatest mechanical advantage?

- Ans ☐ A. Placing the fulcrum exactly at the center regardless of the load's weight
☐ B. Minimizing the Length of the effort arm while keeping the load arm short
☐ C. Positioning the load as far away from the fulcrum as possible
☒ D. Maximizing the Length of the effort arm while keeping the load arm long

Q.52 Which local wind typically occurs at night because of the cooling of land faster than water?

- Ans ☐ A. Westerlies
☐ B. Sea breeze
☒ C. Land breeze
☐ D. Monsoon

Q.53 A student modifies the experiment by replacing the copper wire with a plastic thread between points X and Y, keeping all other conditions unchanged. What will be the expected observation regarding the compass needle and why?

- Ans
- ☐ A. The compass needle will deflect slightly due to friction between the thread and support.
 - ☐ B. The compass needle will deflect less because plastic creates a weaker magnetic field than copper.
 - ☒ C. The compass needle will not deflect because plastic does not conduct electricity and thus no magnetic field is produced.
 - ☐ D. The compass needle will deflect more sharply due to increased resistance in plastic.

Q.54 When a ball falls freely from a height, what happens to its potential and kinetic energy according to the law of conservation of energy?

- Ans
- ☐ A. Both energies decrease at the same time
 - ☐ B. Potential energy increases and kinetic energy decreases
 - ☒ C. Potential energy decreases and kinetic energy increases
 - ☐ D. Both energies are lost as heat immediately

Q.55 An electric motor is rated at 250 W. In a physics experiment, it is used to lift a load performing 7500 J of work. What does the rating indicate in this context?

- Ans
- ☒ A. The motor can perform 7500 J of work in 30 seconds at full power
 - ☐ B. The motor stores 250 J of energy to do work
 - ☐ C. The motor can only do a maximum of 7500 J of work ever
 - ☐ D. The motor applies 250 N of force for 30 seconds

Q.56 Which of the following factors is NOT directly influenced by local wind patterns in agricultural areas?

- Ans
- ☐ A. Control of field moisture levels
 - ☐ B. Support for crop health through ventilation
 - ☐ C. Regulation of soil temperature
 - ☒ D. External characteristic feature of crops

Q.57 In a distance-time graph, two vehicles are represented by two lines: one is a straight line inclined to the time axis, and the other is a curved line with increasing steepness. What does this suggest about the motion of the two vehicles?

- Ans
- ☒ A. One vehicle moves at constant speed, the other accelerates
 - ☐ B. Both vehicles move at the same speed throughout
 - ☐ C. One vehicle is stationary while the other moves
 - ☐ D. Both vehicles move at changing speeds throughout

Q.58 In the context of spherical mirrors, what is the relationship between the principal axis and the normal at the pole?

- Ans
- ☐ A. The principal axis is tangent to the mirror's surface at the pole
 - ☐ B. The principal axis forms a 45-degree angle with the mirror's surface at the pole
 - ☐ C. The principal axis is parallel to the mirror's surface at the pole
 - ☒ D. The principal axis is perpendicular to the mirror's surface at the pole

Q.59 A student pushes a 4 kg cart so that its velocity changes from 2 m/s to 6 m/s in 2 seconds. What is the magnitude of the force applied on the cart?

- Ans
- ☐ A. 16 N
 - ☐ B. 4 N
 - ☐ C. 2 N
 - ☒ D. 8 N

- Q.60** If a cyclist covers a distance of 'D' kilometers in 'T' hours, which formula correctly represents the average speed?
- Ans** ☒ A. Average speed = $D \times T$
☒ B. Average speed = T/D
☒ C. Average speed = D/T
☒ D. Average speed = $D - T$
- Q.61** Which of the following explains how the development of the microscope contributed to changes in biological classification systems?
- Ans** ☒ A. It reduced the need to classify organisms into separate kingdoms.
☒ B. It confirmed that all organisms belonged to either plants or animals
☒ C. It allowed scientists to observe and identify microorganisms previously unknown
☒ D. It enabled scientists to classify organisms using only visible characteristics
- Q.62** A rainbow is observed after a rain shower when sunlight passes through water droplets in the air. Which process primarily causes the separation of colors seen in a rainbow?
- Ans** ☒ A. Absorption of sunlight by water droplets
☒ B. Scattering of sunlight by air molecules
☒ C. Reflection of sunlight from the surface of raindrops
☒ D. Refraction of sunlight followed by dispersion in water droplets
- Q.63** Which feature helps pteridophytes survive better than bryophytes in places with limited moisture?
- Ans** ☒ A. Absence of true roots, stems, and leaves
☒ B. Absorption of water directly through the entire plant body only
☒ C. Dependence on water for the movement of male gametes
☒ D. Presence of vascular tissues for transport of water and nutrients
- Q.64** Persistent high blood pressure may increase the risk of ____.
- Ans** ☒ A. Faster digestion of food
☒ B. Heart disease and stroke
☒ C. Increased oxygen production
☒ D. Improved blood circulation
- Q.65** Which of the following statements best describes a property of a colloid in relation to mixtures and solutions?
- Ans** ☒ A. A colloid separates into layers when filtered.
☒ B. A colloid neither scatters light nor settles on standing.
☒ C. A colloid settles on standing but does not scatter light.
☒ D. A colloid scatters light but does not settle on standing.
- Q.66** An element has two isotopes with mass numbers 35 and 37. Which property remains the same in both isotopes?
- Ans** ☒ A. Mass number
☒ B. Number of protons
☒ C. Number of neutrons
☒ D. Atomic mass
- Q.67** A body of mass 2 kg is held at a height of 5 m. Its potential energy is _____. (Take $g = 10 \text{ m/s}^2$)
- Ans** ☒ A. 10 J
☒ B. 50 J
☒ C. 5 J
☒ D. 100 J

Q.68 What is the chemical formula of washing soda?

- Ans
- ☐ A. NaHCO_3
 - ☐ B. CaCO_3
 - ☒ C. $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$
 - ☐ D. NaCl

Q.69 If a reaction occurs in an open flask and the observed mass decreases, which explanation best fits with the Law of Conservation of Mass?

- Ans
- ☐ A. Reactants become lighter after the reaction
 - ☒ B. A gas has escaped from the flask
 - ☐ C. The Law of Conservation of Mass is invalid
 - ☐ D. Some mass is converted to energy

Q.70 A chemist is preparing a compound that contains sodium (Na), chlorine (Cl), and oxygen (O) in the formula NaClO_3 . If the atomic masses are: Na = 23 u, Cl = 35.5 u, and O = 16 u, then calculate the formula unit mass of NaClO_3 ?

- Ans
- ☒ A. 106.5 u
 - ☐ B. 87.5 u
 - ☐ C. 74.5 u
 - ☐ D. 119.5 u

Q.71 The process of settling down of colloidal particles by adding an electrolyte is called:

- Ans
- ☐ A. dialysis
 - ☐ B. emulsification
 - ☐ C. peptisation
 - ☒ D. coagulation

Q.72 The base of the skull, extends a flexible column called _____.

- Ans
- ☐ A. Atlas column
 - ☒ B. Vertebral Column
 - ☐ C. Axis column
 - ☐ D. Sternum column

Q.73 A ball is dropped from a height and falls freely under gravity for 4 seconds. What is the velocity of the ball after 4 seconds? (Take $g = 10 \text{ m/s}^2$)

- Ans
- ☐ A. 80 m/s
 - ☐ B. 20 m/s
 - ☒ C. 40 m/s
 - ☐ D. 10 m/s

Q.74 When two bodies of different masses are accelerated at the same rate, what can be inferred about the forces acting on them according to Newton's second law?

- Ans
- ☐ A. Force is not dependent on mass when acceleration is constant.
 - ☐ B. The lighter body experiences more force because it moves faster.
 - ☐ C. Both bodies experience equal force because acceleration is the same.
 - ☒ D. The heavier body experiences a greater force due to its larger mass.

Q.75 Which of the following statements is/are true?

- a. The rusting of iron can be prevented by making alloys.
- b. Stainless steel is primarily an alloy of iron, chromium, and nickel.
- c. An alloy is a heterogeneous mixture of two or more metals.

Ans ☒ A. Only a
☒ B. a and b
☒ C. a and c
☒ D. b and c

Q.76 Which of the following structures is directly involved in the process of menstruation?

Ans ☒ A. Ovary
☒ B. Liver
☒ C. Uterus
☒ D. Fallopian tube

Q.77 How does the atmosphere help maintain suitable temperatures for life on Earth?

Ans ☒ A. It allows all heat to escape into space quickly
☒ B. It cools the planet by reflecting all sunlight
☒ C. It blocks all heat from reaching the surface
☒ D. It partly absorbs the incoming solar radiations

Q.78 Which strategy is most effective in reducing tobacco use among teenagers?

Ans ☒ A. Providing sports equipment for students
☒ B. Teaching health risks through workshops
☒ C. Distributing general information pamphlets
☒ D. Showing graphic images without explanation

Q.79 Which charged particle determines the atomic number of an element?

Ans ☒ A. Proton present in nucleus
☒ B. Neutron present in nucleus
☒ C. Mass of the whole atom
☒ D. Electron in outermost shell

Q.80 A mining company discovers a new ore containing a metal from the top of the reactivity series. They want to extract this metal efficiently and economically. Which extraction method should they use?

Ans ☒ A. Carbon reduction with coke
☒ B. Electrolysis of molten ore
☒ C. Leaching with cyanide
☒ D. Roasting in air

Q.81 Which of the following best describes why noble gases have a valency of zero?

Ans ☒ A. Their outermost shell is already complete and stable
☒ B. They are the smallest atoms in the periodic table
☒ C. They have no electrons in the outer shell to react
☒ D. They cannot form ions under any condition

Q.82 Which property of convex mirrors makes them suitable for use in shopping malls for security purposes?

Ans ☒ A. They give a wide field of view.
☒ B. They reverse the image.
☒ C. They reflect light in parallel beams.
☒ D. They magnify the image.

Q.83 Which process occurs when blood passes through the lungs during circulation?

- Ans**
- ☒ A. Oxygen is absorbed and carbon dioxide is released
 - ☐ B. Blood is filtered for waste removal
 - ☐ C. Carbon dioxide is absorbed and oxygen is released
 - ☐ D. Nutrients are absorbed into the blood

Q.84 Consider the following statements regarding the behaviour of acids and bases in aqueous solutions and choose the correct statement.

- (I) Acids produce H^+ ions in aqueous solutions.
- (II) Bases produce OH^- ions in aqueous solutions.
- (III) The acidic nature of a solution is due to the presence of OH^- ions.
- (IV) The basic nature of a solution is due to the presence of OH^- ions.

- Ans**
- ☒ A. Only I, II and IV
 - ☐ B. Only I and II
 - ☐ C. Only II and III
 - ☐ D. Only III and IV

Q.85 What are the necessary conditions for corrosion or rusting of iron?

- Ans**
- ☐ A. Only air/oxygen
 - ☐ B. Only high temperature
 - ☒ C. Both moisture and air/oxygen
 - ☐ D. Only moisture

Q.86 In a seesaw, where should the load be placed relative to the fulcrum for easier lifting?

- Ans**
- ☐ A. At the same distance as effort is from the fulcrum
 - ☐ B. Exactly at the same point as the fulcrum
 - ☒ C. Closer to the fulcrum
 - ☐ D. Farther from the fulcrum

Q.87 Which of the following best explains why ethanol is considered a cleaner fuel compared to petrol in automobiles?

- Ans**
- ☐ A. Ethanol is more difficult to store and transport than petrol
 - ☒ B. Ethanol produces less harmful emissions during combustion
 - ☐ C. Ethanol causes more corrosion in engine parts
 - ☐ D. Ethanol contains more energy per gram than petrol

Q.88 Which tissue can be found in a fern stem cross-section, but is missing in Bryophyta and Thallophyta?

- Ans**
- ☐ A. Root hairs
 - ☐ B. Chlorophyll
 - ☒ C. Vascular bundles
 - ☐ D. Leaf pores

Q.89 In a grassland food web, which of the following would most likely happen if the population of primary consumers such as rabbits dramatically decreased?

- Ans**
- ☐ A. The population of decomposers would increase due to more dead matter.
 - ☐ B. The grass population would decrease due to increased grazing.
 - ☐ C. The top predator population would increase due to more available prey.
 - ☒ D. The secondary consumer population would decrease due to reduced food availability.

Q.90 A botanist is attempting to genetically modify a crop plant to increase its height and repair capability after damage. Which plant tissue should she focus on enhancing to make the plant more effective?

- Ans**
- ✓ A. Focus on enhancing the meristematic tissue as it drives growth and regeneration.
 - ✗ B. Focus on enhancing the epidermal tissue as it protects against pathogens.
 - ✗ C. Focus on enhancing the ground tissue as it stores food.
 - ✗ D. Focus on enhancing the vascular tissue as it transports nutrients and water.

Section : General Awareness

Q.91 The Khelo India Winter Games 2026 was held in February 2026 in which of the following states/union territories?

- Ans**
- ✓ A. Jammu & Kashmir
 - ✗ B. Uttarakhand
 - ✗ C. Himachal Pradesh
 - ✗ D. Arunachal Pradesh

Q.92 Which Indian state has launched the Pandit Deendayal Upadhyay Poverty-Free Village Scheme (Pandit Deendayal Upadhyay Gramin Panchayat Vikas Yojana) in 2025?

- Ans**
- ✓ A. Rajasthan
 - ✗ B. Bihar
 - ✗ C. Uttar Pradesh
 - ✗ D. Uttarakhand

Q.93 What was the theme of the 63rd National Maritime Day Celebrations, observed in April 2026?

- Ans**
- ✗ A. Blue Economy for Viksit Bharat
 - ✗ B. Strengthening India's Maritime Future
 - ✗ C. Sustainable Seas, Prosperous Nation
 - ✓ D. Maritime India, Empowering Progress

Q.94 Which of the following organisations launched the report titled "Strategic Roadmap for Making Ayurveda Global" in July 2026?

- Ans**
- ✗ A. Ministry of AYUSH
 - ✗ B. Indian Council of Medical Research (ICMR)
 - ✓ C. NITI Aayog
 - ✗ D. The National Medical Commission (NMC)

Q.95 According to the publication titled "Children in India 2025" report, released by the Ministry of Statistics and Programme Implementation (MoSPI), the infant mortality rate (IMR) decreased from 44 per 1,000 live births in 2011 to what figure in 2023?

- Ans**
- ✗ A. 30 per 1,000 live births
 - ✗ B. 15 per 1,000 live births
 - ✓ C. 25 per 1,000 live births
 - ✗ D. 35 per 1,000 live births

Q.96 In January 2026, DRDO successfully conducted a long-duration ground test of an Actively Cooled Scramjet Engine for the development of _____.

- Ans**
- ✓ A. Hypersonic cruise missiles
 - ✗ B. Unmanned combat aerial vehicles
 - ✗ C. Ballistic missile defence systems
 - ✗ D. Reusable launch vehicles

Q.97 In April 2026, who among the following released the book 'Tides of Time: Bharat's History through Murals in Parliament'?

- Ans**
- ☒ A. C. P. Radhakrishnan
 - ☐ B. Jagdeep Dhankhar
 - ☐ C. Droupadi Murmu
 - ☐ D. Harivansh Narayan Singh

Q.98 In June 2026, Ethan Vaz achieved the title of India's 96th Chess Grandmaster after securing his final Grandmaster norm at which tournament?

- Ans**
- ☐ A. Prague Masters
 - ☐ B. Tata Steel Chess Tournament
 - ☒ C. Sarajevo GM Mix Tournament
 - ☐ D. Reykjavik Open

Q.99 Which dedicated task force was constituted by SEBI in May 2026 to address AI-driven cybersecurity risks?

- Ans**
- ☐ A. AI Shield India
 - ☐ B. Secure Markets Mission
 - ☒ C. cyber-suraksha.ai
 - ☐ D. Cyber Rakshak

Q.100 In May 2026, the exhibition 'Geographies of Distance: Remembering Home', presented at the 61st International Art Exhibition – La Biennale di Venezia, was curated by:

- Ans**
- ☐ A. Bose Krishnamachari
 - ☐ B. Alwar Balasubramaniam
 - ☒ C. Dr. Amin Jaffer
 - ☐ D. Ranjani Shettar