रेल भर्ती बोर्ड / RAILWAY RECRUITMENT BOARD
सी ई एन - 06/2025 - CEN - 06/2025
एनटीपीसी (स्नातक स्तर) की भर्ती / Recruitment of NTPC Graduate Level

RRB NTPC Graduate 2025 CBT-2

NTPC Graduate Level · CEN 06/2025 · CBT-2 · Mathematics — Topic-wise

English

25 Chapters · 35 Questions · Official Answer Key

About this Compilation

Every **Mathematics** question asked in the paper of the **RRB NTPC Graduate 2025 CBT-2** examination (CEN 06/2025), regrouped by **chapter**, so you can revise one topic end to end. The correct option is marked as per the official answer key.

Sections. The saved NTPC Graduate CBT-2 paper carries no section labels and mixes the subjects. In this book the questions are grouped into the three exam sections (Mathematics, General Intelligence and Reasoning, General Awareness incl. General Science), assigned from our topic tags (35 / 35 / 50, same as the notified pattern). Question numbers and answers are the same as in our complete paper book.

How to use

- Use the **Index** to jump to any chapter (clickable).
- Within a chapter, questions on the same idea are placed together.
- The correct answer is highlighted in green with a tick.
- The same paper is also available complete and section-wise.



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Arithmetic 3 Questions • Answer Key

Q1 Percentage of number

If 40% of a number is added to 240, then the result is the same number. 50% of the same number is:

A. 440
B. 300
C. 200 ✓
D. 220

Q2 Percentage saving

A person travels from place P to place Q to buy an article that costs 15% less at Q than at P. He spends ₹150 on travel and still saves ₹150 compared to buying the article at P. What is his percentage saving with respect to the price at P?

A. 4.5%
B. 3.5%
C. 7.5% ✓
D. 9%

Q3 Successive percentage change

The price of a shirt is increased by 20% and then decreased by 20%. What is the net percentage change in the price?

A. No change
B. 0.4% increase
C. 8% decrease
D. 4% decrease ✓

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Arithmetic

2 Questions • Answer Key

Q1 Discount

A wholesaler offers a scheme discount of 2% on the total purchase if the customer buys more than 100 units of a product. If the price per unit is ₹20, what is the total amount payable if the customer buys 150 units?

A. ₹2,980

B. ₹3,020

C. ₹2,940 ✓

D. ₹3,000

Q2 Successive profit and loss

A shopkeeper buys a laptop for ₹40,000. He first sells it at a 20% profit. Later, the buyer sells it to another person at a 10% loss. What is the final selling price of the laptop?

A. ₹43,200 ✓

B. ₹50,000

C. ₹48,000

D. ₹42,000

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Arithmetic

1 Question • Answer Key

Q1 SI rate

Shivam borrowed a sum of ₹30,000 at a certain rate of simple interest for 3 years. If he paid an interest of ₹4,500 at the end of the period at x% per annum rate of interest, the value of x is:

A. 4

B. 5 ✓

C. 7

D. 6

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Arithmetic 1 Question • Answer Key

Q1 CI multiplying sum

A sum of money triples itself at a certain rate of compound interest, compounded annually in 7 years. In how many years will it amount to 27 times of itself?

A. 11 years

B. 31 years

C. 23 years

D. 21 years ✓

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Arithmetic 2 Questions • Answer Key

Q1 Division into parts

A sum of ₹3059 is divided into three parts such that half of the first part, one-fourth of the second part, and one-eighth of the third part are equal. Find the value (in ₹) of the third part.

- **A.** 1748 ✓
- **B.** 1548
- **C.** 1848
- **D.** 1948

Q2 Mean proportional

If the mean proportional between (x + 3) and (x − 3) is 4, what is the value of x; x>0?

- **A.** 4
- **B.** 6
- **C.** 5 ✓
- **D.** 3

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Arithmetic 3 Questions • Answer Key

Q1 Men and days

If 12 workers can complete a wall in 18 days, in how many days will 8 workers complete it?

A. 36 days

B. 27 days ✓

C. 32 days

D. 30 days

Q2 Work and efficiency

A and B complete a work in 35 days. If A alone can do it in 60 days, then B alone can do one-third of the same work in _____days.

A. 84

B. 36

C. 42

D. 28 ✓

Q3 Work and efficiency

A can complete a work in 9 days and B can complete the same work in 22 days. If they work together for 2 days, what fraction of the work remains unfinished?

A. $\frac{71}{99}$

B. $\frac{68}{99}$ ✓

C. $\frac{76}{99}$

D. $\frac{73}{99}$

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Arithmetic 2 Questions • Answer Key

Q1 Circular track

Sushant and Varun are running on a circular track of 400 metres. Sushant completes one round in 100 seconds, and Varun completes one round in 80 seconds. They start simultaneously from the same point and run in opposite directions. How many times do they meet before they both return together to the starting point again?

A. 10

B. 9

C. 8 ✓

D. 12

Q2 Races

In a linear race of 750 meters, X can beat Y by 10 meters. In a race of 444 meters, Y can beat Z by 6 meters. In a race of 150 meters, X will beat Z by how many meters?

A. 2

B. 3

C. 4 ✓

D. 6

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Arithmetic 1 Question • Answer Key

Q1 Age ratio

The ratio of Rahul's age to his son's age is 7 : 2. If Rahul is 49 years old, what is his son's age?

A. 13 years

B. 15 years

C. 12 years

D. 14 years ✓

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Algebra

1 Question • Answer Key

Q1 Linear equations consistency

The given system of linear equations possesses infinitely many solutions.

$3x + 7y = 15$
$ax + by = 30$

What are the values of a and b?

A. a = 7; b = 3

B. a = 6; b = 14 ✓

C. a = 14; b = 6

D. a = 3; b = 7

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Algebra

1 Question • Answer Key

Q1 Cube identity

Which of the options below is equivalent to $27x^3 + 343y^3 + 189x^2y + 441xy^2$?

A. $(5x + 7y)^3$

B. $(3x + 7y)^3$ ✓

C. $(3x + 10y)^3$

D. $(7x + 3y)^3$

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Algebra 1 Question • Answer Key

Q1 Powers simplification

Simplify: $\frac{(2^4 \times 3^4 \times 5^4)}{(2^2 \times 3^2 \times 5^2)}$

A. 909

B. 910

C. 905

D. 900 ✓

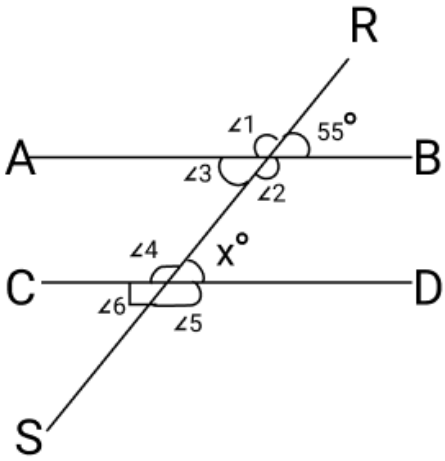
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Geometry 1 Question • Answer Key

Q1 Parallel lines transversal

In the given figure, AB is parallel to CD and RS is a transversal. Find the value of X.



A. 55 ✓

B. 35

C. 65

D. 45

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Geometry 1 Question • Answer Key

Q1 Angle bisector theorem

In a Δ XYZ, XT is the bisector of ∠X meeting side YZ at T. If XY = 5.6 cm, YZ = 6 cm, and YT = 3.2 cm, find XZ.

A. 5.4 cm

B. 6 cm

C. 4.2 cm

D. 4.9 cm ✓

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Geometry 2 Questions • Answer Key

Q1 Chord and concentric circles

Two concentric circles with a common centre 'O' have a chord AB on the outer circle, which intersects the inner circle at points C and D. If the distance of the chord from the centre is 3 cm, the outer radius is 13 cm and the inner radius is 7 cm, then the length (in cm) of AC is:

A. $3\sqrt{10}$

B. $2\sqrt{10}$ ✓

C. $5\sqrt{10}$

D. $4\sqrt{10}$

Q2 Tangents to circle

Two tangents, PQ and QR, are drawn from an external point Q to a circle of centre O. If $OQ = 41$ cm, $\angle PQR = 60^\circ$ and the radius of the circle is 9 cm, find the perimeter of $\triangle PRQ$.

A. 80 cm

B. 135 cm

C. 95 cm

D. 120 cm ✓

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Geometry 1 Question • Answer Key

Q1 Quadrilateral properties

Choose the correct statements about quadrilaterals from the ones given below.

A. In an isosceles trapezium, the parallel sides are equal.
B. Kite is a type of parallelogram.
C. All squares are rhombus.
D. The quadrilateral formed by joining the mid-points of the sides of any quadrilateral is a trapezium.

A. A, B, D

B. Only C ✓

C. A, D

D. B, C

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Geometry 1 Question • Answer Key

Q1 Interior angles of polygon

Five interior angles of a 10-sided figure are each 185 degrees. If the remaining five interior angles are equal, then each of the five angles (in degrees) is equal to:

A. 105

B. 107

C. 103 ✓

D. 101

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Geometry 1 Question • Answer Key

Q1 Centroid

Find the vertex C (x, y) of a ΔABC whose other vertices are A(1, 5) and B(4, 7), and the centroid is D(4, 5).

A. C (6, 3)

B. C (7, 4)

C. C (3, 6)

D. C (7, 3) ✓

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Mensuration

2 Questions • Answer Key

Q1 Path around field

A rectangular field measures 68.5 m by 45.6 m. A path of uniform width 2.4 m is constructed around the outside of the field. Find the difference between the outer perimeter of the path and the perimeter of the original field.

A. 20 m

B. 19.2 m ✓

C. 18.5 m

D. 17 m

Q2 Parallelogram area

The base of a parallelogram is thrice its height. If the area of the parallelogram is 216 cm^2, then find its height.

A. $5\sqrt{2}$ cm

B. $7\sqrt{2}$ cm

C. $8\sqrt{2}$ cm

D. $6\sqrt{2}$ cm ✓

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Mensuration

2 Questions • Answer Key

Q1 Box volume

A metallic sheet is of the rectangular shape with length 56 cm and width 40 cm. From each corner, a square of 10 cm is cut-off. A closed box is made of the remaining sheet. How many match boxes of length 4.0 cm breadth 2.0 cm and height 1.5 cm it can accommodate?

A. 620 boxes

B. 600 boxes ✓

C. 550 boxes

D. 610 boxes

Q2 Cuboid diagonal

Two cubes, each of volume 216 cm^3, are joined end to end. Find the length of the diagonal of the resulting cuboid.

A. $6\sqrt{6}$ cm ✓

B. $8\sqrt{7}$ cm

C. $7\sqrt{3}$ cm

D. $5\sqrt{2}$ cm

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Trigonometry 1 Question • Answer Key

Q1 Trig ratio from equation

If $10\sin A + \cos A = \sqrt{6}\sin A$, find the value of $\tan A$.

A. $\frac{-10-\sqrt{6}}{94}$ ✓

B. $\frac{-10-\sqrt{6}}{96}$

C. $\frac{-10-\sqrt{6}}{99}$

D. $\frac{-11-\sqrt{6}}{96}$

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Trigonometry 1 Question • Answer Key

Q1 Height and distance

Amit is standing on the ground and flying a kite using a 100 m long string at an angle of elevation of 30°. Nitin is standing on the roof of a building that is 10 m high and flying his kite at an angle of elevation of 45°. The two boys are standing on opposite sides of the point where the kites meet. Find the length (in m) of the string that Nitin must use so that both kites meet at the same point.

A. $40\sqrt{2}$ ✓

B. $40\sqrt{3}$

C. $50\sqrt{2}$

D. $50\sqrt{3}$

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Number System 1 Question • Answer Key

Q1 Recurring decimals

Solve the following equation for x involving mixed recurring decimals and express the solution as vulgar fraction.
3x + 2.3666... = 5.4666...

A. $\frac{31}{26}$

B. $\frac{31}{30}$ ✓

C. $\frac{29}{31}$

D. $\frac{31}{20}$

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Number System

1 Question • Answer Key

Q1 LCM with remainder

The largest four-digit number which when divided by 8, 7 and 11 leaves remainder 4 in each case is:

A. 9811

B. 9624

C. 9860 ✓

D. 9956

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Statistics 1 Question • Answer Key

Q1 Median

Find the median of the data: 4, 6, 8, 10, 12, 14.

A. 11

B. 10

C. 9 ✓

D. 8

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Statistics 1 Question • Answer Key

Q1 Mean deviation

Find the mean deviation about the mean for the data.

5, 10, 15, 20, 25.

A. 5

B. 7

C. 8

D. 6 ✓

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