



RRB NTPC Undergraduate 2025 CBT-2

Undergraduate Level · CEN 07/2025 · CBT-2 · Mathematics — Topic-wise

English

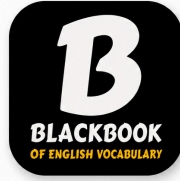
18 Chapters · 35 Questions · Official Answer Key

About this Compilation

Every **Mathematics** question asked in the paper of the **RRB NTPC Undergraduate 2025 CBT-2** examination (CEN 07/2025), regrouped by **chapter**, so you can revise one topic end to end. The correct option is marked as per the official answer key.

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.



Blackbook:
English Vocabulary



Toppers' Choice, Blackbook of English Vocabulary, Now available in App format : DOWNLOAD NOW

Index — All Chapters (click to open)

1 Percentage Arithmetic · 1 Qs	10 Simplification Algebra · 2 Qs
2 Profit and Loss Arithmetic · 4 Qs	11 Lines and Angles Geometry · 1 Qs
3 Simple Interest Arithmetic · 1 Qs	12 2D Mensuration Mensuration · 1 Qs
4 Compound Interest Arithmetic · 1 Qs	13 3D Mensuration Mensuration · 3 Qs
5 Ratio and Proportion Arithmetic · 5 Qs	14 Basic Trigonometric Ratios Trigonometry · 1 Qs
6 Average Arithmetic · 2 Qs	15 Types of Numbers Number System · 1 Qs
7 Time and Work Arithmetic · 4 Qs	16 Divisibility Number System · 2 Qs
8 Time, Speed and Distance Arithmetic · 3 Qs	17 Measures of Central Tendency Statistics · 1 Qs
9 Basic Algebra Algebra · 1 Qs	18 Measures of Dispersion Statistics · 1 Qs

Q1 Percentage comparison

7% of a number is what percentage of the 9% of the same number? (Rounded off to two decimal places.)

A. 78.57%

B. 43.75%

C. 77.78%



D. 21.87%



Arithmetic

4 Questions • Answer Key

Q1 Discount and tax

A laptop is marked at ₹45,000. A shopkeeper offers a discount of 25% on the marked price. After the discount, the laptop is sold with an additional 10% tax on the selling price. What is the final price of the laptop after the discount and tax?

A. ₹37,500

B. ₹37,125



C. ₹34,650

D. ₹33,750

Q2 False weights

A shopkeeper professes to sell his goods at a 5% loss but uses a false balance and gains 40%. The actual weight (rounded off to one decimal place) he uses for 1 kg is:

A. 682.8 gm

B. 675.3 gm

C. 678.6 gm



D. 680.9 gm

Q3 Profit from sale proceeds

A shopkeeper expects a gain of 40% on his cost price. If in a week, his sale proceeds were ₹3,955, what was his profit (in ₹)?

A. 1,129

B. 1,133

C. 1,130



D. 1,132

Q4 Profit on items

A shopkeeper purchases 20 identical items for ₹400. To make a profit of 25%, how many items should he sell for ₹400, if the selling price is uniform for all items?

A. 18

B. 15

C. 16



D. 20



Q1 Simple interest amount

₹620 amounts to ₹910 at a certain rate of simple interest in 2 years. Find the interest (in ₹) for the given 2 years.

A. 305

B. 290



C. 285

D. 300



Q1 CI division of sum

Krish has ₹1,352, which he divides between his two sons, Veer and Nitin. Both invest their respective amounts at an annual compound interest rate of 8%. If the amounts accumulated by Veer after 18 years and by Nitin after 19 years are equal, how much money (in ₹) did Krish give to Nitin?

A. 500

B. 702

C. 650



D. 802



Arithmetic

5 Questions • Answer Key

Q1 Comparison of ratios

Arrange the ratios in the ascending order: 6:7, 11:12, 21:23, 31:35, 43:45.

- A. 6:7, 31:35, 11:12, 43:45, 21:23
- B. 6:7, 31:35, 11:12, 21:23, 43:45
- C. 6:7, 31:35, 21:23, 11:12, 43:45 ✓
- D. 6:7, 11:12, 21:23, 31:35, 43:45

Q2 Division into parts

A sum of money is divided among A, B, and C so that A gets twice as much as B and B gets three times as much as C. If the total sum is ₹720, how much does C get?

- A. ₹96
- B. ₹72 ✓
- C. ₹60
- D. ₹84

Q3 Income and expenditure

The monthly incomes of two friends Mohan and David are in the ratio 6 : 8, respectively and each of them saves ₹51,000 every month. If the ratio of their monthly expenditure is 2 : 4, find the monthly income of Mohan (in ₹).

- A. 75,500
- B. 77,500
- C. 1,07,100
- D. 76,500 ✓

Q4 Ratio from percentages

If 25% of A is equal to 40% of B, and 30% of B is equal to 45% of C, then A:B:C is:

- A. 24:15:10 ✓
- B. 24:14:9
- C. 8:5:3
- D. 12:9:7

Q5 Fourth proportional

Find fourth proportional to $2^{0.5}$, $2^{1.5}$ and $2^{2.5}$

- A. 2^2
- B. 2^4
- C. $2^{0.5}$
- D. $2^{3.5}$ ✓



Arithmetic

2 Questions • Answer Key

Q1 Average of numbers

If the average of three numbers is 15 and two of the numbers are 10 and 20, what is the third number?

A. 10

B. 25

C. 15



D. 20

Q2 Wrong entry in average

A student's marks were incorrectly entered as 68 instead of 59. Due to this, the average marks of the class got increase by 1.8. What is the number of students in the class?

A. 7

B. 5



C. 6

D. 4



Arithmetic

4 Questions • Answer Key

Q1 Efficiency based work

A, B and C together can complete a certain work in 37 days. B and C together can complete the same work in 74 days. B is 50% more efficient than A. A, B and C work together for 28 days. B alone will complete the remaining work in:

- A. 9 days
- B. 14 days
- C. 12 days
- D. 13 days



Q2 Man-hours and output

If 5 workers, working 8 hours a day for 12 days, produce 2400 units, then how many units will 10 workers, working 8 hours a day for 12 days, produce, assuming the productivity of each worker remains constant?

- A. 2400 units
- B. 3600 units
- C. 4800 units
- D. 6000 units



Q3 Work and individual time

A and B complete a piece of work in 24 days. If A alone can complete it in 60 days, then in how many days can B alone complete one-fourth of the same work?

- A. 10
- B. 12
- C. 9
- D. 8



Q4 Workers leaving

A team of 24 workers is assigned to finish a task in 15 days. After working for 1 day, 8 workers quit. Assuming all workers are equally efficient, how many additional days will the remaining workers need to complete the rest of the task?

- A. 25 days
- B. 28 days
- C. 21 days
- D. 18 days



Q1 Average speed

A cyclist travels the first 30 km at 20 km/h, the next 50 km at 25 km/h, and the final 20 km at 10 km/h. What is the cyclist's average speed for the entire 100 km trip (round off to the nearest integer)?

- A. 19 km/h
- B. 21 km/h
- C. 20 km/h
- D. 18 km/h

**Q2 Circular track**

In a circular race of 2025 m, Kushal and Yamini start from the same point and at the same time with speeds of 33 km/h and 36 km/h, respectively. After how long will they meet again for the first time on the track when they are running in the same direction?

- A. 2434 seconds
- B. 2426 seconds
- C. 2430 seconds
- D. 2438 seconds

**Q3 Speed of sound**

A gun is fired at a distance of 1.45 km from a place. The sound was heard after 5 seconds. The speed (m/s) at which sound travels is?

- A. 300 m/s
- B. 290 m/s
- C. 240 m/s
- D. 145 m/s



Q1 Linear equations in two variables

A stationery shop sells notebooks and pens. Suppose 5 notebooks and 3 pens cost ₹146, whereas 7 notebooks and 2 pens cost ₹178. If a student buys 4 notebooks and 6 pens, how much will the student pay?

A. ₹154

B. ₹176

C. ₹160



D. ₹168



Algebra

2 Questions • Answer Key

Q1 BODMAS

Evaluate: $(-37) + (-56) \div (-3) \times 3$

A. 21

B. 15

C. 17

D. 19



Q2 BODMAS

Evaluate: $11 - 12 \div 12 \times 8$

A. 4

B. 2

C. 1

D. 3



Q1 Parallel lines transversal

Lines AB and CD are parallel, with A and C to the left of the transversal XY, and B and D to the right. The transversal intersects AB at M and CD at N, where X, M, N, and Y are collinear in that order. If measure of $\angle XMA = 125^\circ$, then the measure of $\angle CNY$ is:

A. 52° B. 58° C. 55° D. 50° 

Q1 Square and triangle area

Find the area of a square, which has twice the area of a triangle whose base length is 23 cm and corresponding height is 12 cm.

A. 256 cm^2 B. 218 cm^2 C. 204 cm^2 D. 276 cm^2 

Mensuration

3 Questions • Answer Key

Q1 Cuboid volume

A water tank is of cuboidal shape having length 15 m and breadth 12 m. The sum of the area of the floor and ceiling of the tank is same as the area of four walls of the tank. How many liters of rainwater can be collected in this tank?

- A. 1000×10^2 liters
- B. 1200×10^2 liters
- C. 1200 litres
- D. 1200×10^3 liters



Q2 Hemisphere surface area

Find the total surface area of a hemispherical bowl whose volume is 7.065 m^3 (use $\pi = 3.14$).

- A. 28.365 m^2
- B. 21.195 m^2
- C. 35.125 m^2
- D. 18.125 m^2



Q3 Melting and recasting

How many spherical lead shots of radius 3 cm can be made out of a solid cuboid of lead having dimensions $54 \text{ cm} \times 44 \text{ cm} \times 30 \text{ cm}$?

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

- A. 630
- B. 600
- C. 640
- D. 620



Q1 Trig ratio from equation

If $5 \sin y + \cos y = \sqrt{13} \sin y$, find the value of $\tan y$.

A. $\frac{-5 - \sqrt{13}}{22}$

B. $\frac{-5 - \sqrt{13}}{17}$

C. $\frac{-6 - \sqrt{13}}{12}$

D. $\frac{-5 - \sqrt{13}}{12}$



Q1 Prime factors

Find the total number of prime factors of the number $5^8 \times 6^7 \times 11^4$

A. 28

B. 26



C. 22

D. 30



Number System

2 Questions • Answer Key

Q1 Division algorithm

In a division sum, the divisor is 3 times the quotient and 8 times the remainder. If the remainder is 12, what is the dividend?

A. 3072

B. 3084 ☒

C. 3066

D. 3048

Q2 LCM

The LCM of the numbers 3, 77 and 33 is:

A. 462

B. 231 ☒

C. 77

D. 242



Q1 Mean median mode relation

The mean of a data is 41 and its median is 50. The mode (using empirical relation) of the data is:

A. 150

B. 91

C. 156

D. 68



Q1 Variance

Consider the data set: 4, 8, 6, 5, 3, 9. Find the variance.

A. $\frac{161}{35}$

B. $\frac{151}{35}$

C. $\frac{151}{36}$

D. $\frac{161}{36}$

