

SSC CPO 2023 Compilation

(Exams held in Oct 2023)



All 9 shifts

Maths Mock Format
(English)

RBE- Revolution By Education

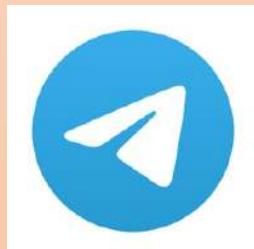
JOIN US (click on Image) ON:-



Free important job
details
& Free lectures



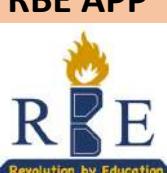
<http://youtube.com/c/RBERevolutionByEducation>



All previous year
paper compilation
(SSC & Railway Exam)

https://t.me/RBE_S



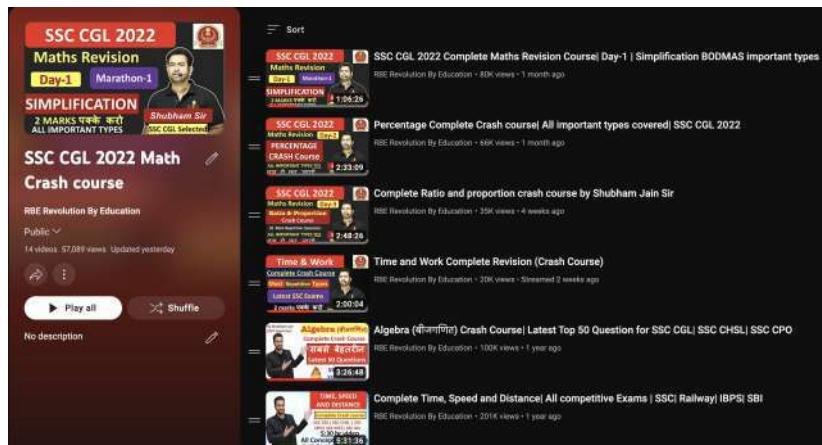
RBE APP

Revolution by Education

[https://play.google.com/st ore/apps/details?id=com.r evolution.education](https://play.google.com/store/apps/details?id=com.r evolution.education)

https://www.instagram.com/shubh_rbe/

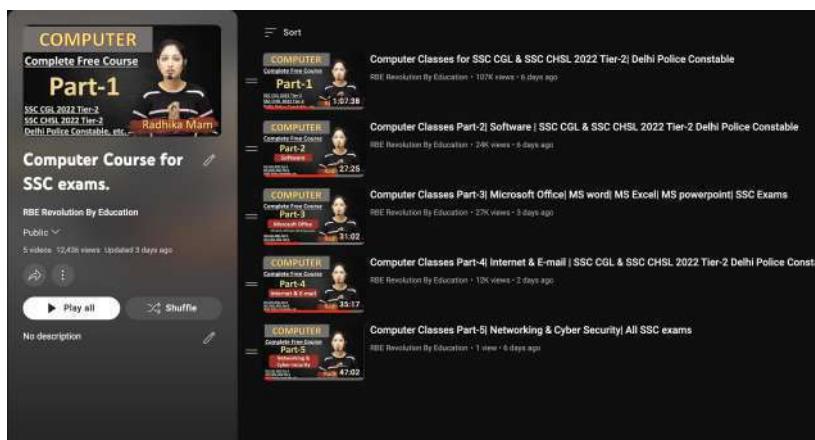
By Shubham Sir

Important Free Playlists



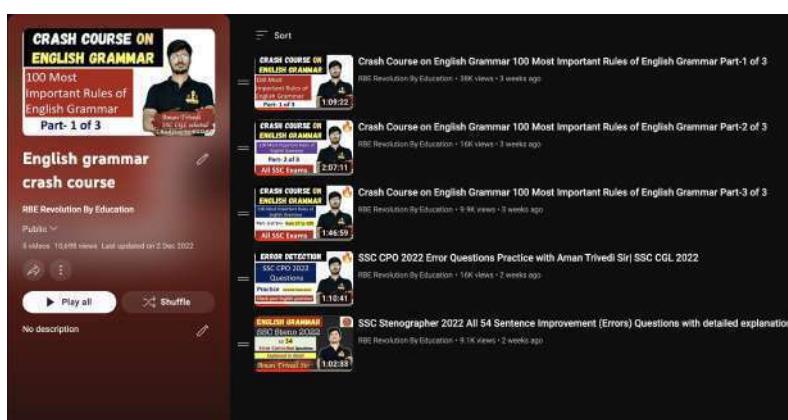
Maths

[https://youtube.com/playlist?
list=PL5SDIP42gG0hyfTcmzRS7poiHflQy4_dp](https://youtube.com/playlist?list=PL5SDIP42gG0hyfTcmzRS7poiHflQy4_dp)



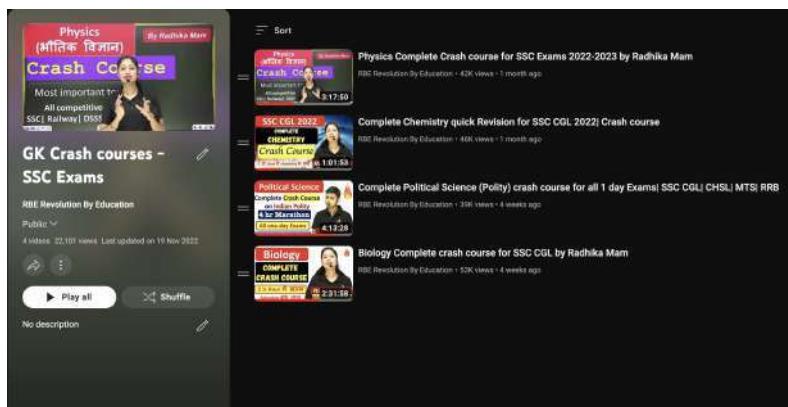
Computer

[https://youtube.com/playlist?
list=PL5SDIP42gG0g61Xxo0JwAc1i
VDUR2Uyhi](https://youtube.com/playlist?list=PL5SDIP42gG0g61Xxo0JwAc1iVDUR2Uyhi)



English

[https://youtube.com/playlist?
list=PL5SDIP42gG0j8xFLAuPW8G
s-Ow57H1h51](https://youtube.com/playlist?list=PL5SDIP42gG0j8xFLAuPW8Gs-Ow57H1h51)



GK

[https://youtube.com/playlist?
list=PL5SDIP42gG0jYdib8TRhsiuKph
Yhn0W5-](https://youtube.com/playlist?list=PL5SDIP42gG0jYdib8TRhsiuKphYhn0W5-)

Download RBE Application now-

<https://play.google.com/store/apps/details?id=com.revolution.education>

SSC EXAMS 2024-25



Officers' Batch

Recorded
Videos Based on
Latest Pattern

SSC CGL (Till Tier-2), SSC CHSL | SSC CPO | SSC MTS | SSC STENO

All Subjects

Maths
Reasoning
English
GK/GS

Price
1999/- Only
9 Months Validity
SSC मतलब RBE



SHUBHAM JAIN SIR
SSC CGL SELECTED

For SSC Exams Complete Preparation (Download RBE Application)
(Learn from those who have cleared the exam themselves)

<https://play.google.com/store/apps/details?id=com.revolution.education>

Complete General Awareness for SSC Exams 2022-23

LEARN FROM THE BEST:- VOD BATCH

Top Quality Content at The Best Affordable Prices

Learn From Those Who Themselves Have Cleared The Examination

Course Fee:- 799/- Validity 8 Months

SSC मतलब RBE

SHUBHAM SIR SSC CGL SELECTED

SSC Exams Targeted Math Batch
Dronacharya Batch

Price
899/- (6 months)
1199/- (1 Year)
Price May Differ In Future

Basic to High Level VOD Course.
(No Previous knowledge required).
Exam Oriented approaches.
Chance to learn from already Selected person.
SSC Exams Preparation Basic (Useful for Bank, State Exam, CSAT, etc., etc.)
Recorded Videos (Saves time)
Maximum Focus on latest pattern of SSC exams.
Guidance to clear Exams in first attempt.

SSC Exams Pre + Mains
SSC मतलब RBE

Learn From Those Who Themselves Have Cleared The Exam

SHUBHAM SIR SSC CGL SELECTED

SSC Exams 2022 REASONING Complete Course Pre + Mains

Course Fees 299/- Validity 8 Month

Practice Sessions Will Follow Time To Time as Required

Happy Rao Sir

ENGLISH PANACEA BATCH

For all SSC Exams
(Pre + mains) Fees:- 599/
1 year validity

Recorded Plus Live Videos

Detailed Concepts of All Topic Plus Practice Sessions

Aman Trivedi Sir
Selected as CGA Auditor

Amazing Concepts

All SSC PYQ printable PDF Link:-
<https://rbelearning.com/courses/16/content/24>

ALL SSC EXAMS

SSC CGL, SSC CHSL, SSC CPO, SSC MTS
SSC GD, RAILWAY RRB NTPC, GROUP D
SSC SELECTION POST, Etc.

All Previous Year Papers

Free Subject-wise Mock PDFs.



Test Series on latest pattern for SSC exams

<https://rbelearning.com/test-series>

SSC CGL-2023

Tier-2 Rs.149
Test Series

Based on Latest Pattern
20 Tier-2 Mocks



All SSC PYQ Chapter-wise printable PDF course:-

<https://play.google.com/store/apps/details?id=com.revolution.education>

SSC Exams 2020-23 Chapter-wise pdfs
GK, Reasoning, Maths & English

PDFs of exams:

SSC CGL Tier-1 (2020, 2021, 2022)
SSC CGL Tier-2 (2019, 2020, 2021, 2022)
SSC CPO Tier-1 (2020, 2022)
SSC CPO Tier-2 (2018, 2019, 2020, 2022)
SSC CHSL Tier-1 (2019, 2020, 2021, 2022)
SSC Steno Tier-1 (2019, 2020, 2022)
SSC MTS Tier-1 (2020, 2021)
SSC GD 2021, 2022
Delhi police HCM 2022
SSC IMD 2022
Selection Post Phase Ix, x, xi

अपनी preparation को दे नयी उड़ान
Smart pdfs

199 Only/-
8 months' Validity

First choice of Selected aspirants



We will try to give more pdf with time.
Future SSC Exams pdfs will also be provided

<https://rbelearning.com/test-series>

SSC CGL/CHSL 2023
Best Test Series
Based on Latest pattern
30 Tier-1 Mock
10 Sectional Tests
Rs. 99



RBE Telegram Channel
https://t.me/RBE_S_8128



RBE- REVOLUTION BY EDUCATION
4,82,684 subscribers

For SSC Exams all previous year papers, updates related to exam and study material

RBE free Current Affairs E-book
https://t.me/RBE_S_8128

RBE-REVOLUTION BY EDUCATION
ENGLISH *Revolutionary*
Updated till June, 2023

Current Affairs And Static Gk
All Competitive Exams

(CGL, CHSL, CPO, STENO, MTS, GD, SELECTION POST, ETC.)

ALSO USEFUL FOR:
RRB (NTPC, GROUP D, etc.), DSSSB, DDA, HARYANA CET, HSSC, BSSC, UP SI, RSSB, UPSSSC



SSC मतलब RBE

RBE free Computer E-book
https://t.me/RBE_S_7989

RBE-REVOLUTION BY EDUCATION
COMPUTER 2.0

ALL SSC EXAMS
(CGL, CHSL, DELHI POLICE CONSTABLE, DELHI POLICE HCM, CPO, ETC.)

Also Useful For:
HARYANA CET, DSSSB, DDA, BSSC, RSSB, UPSSSC, SBI PO, SBI CLERK



SSC मतलब RBE

Download RBE Application now-
<https://play.google.com/store/apps/details?id=com.revolution.education>

RBE Revolution By Education

Money Maths Financial Services

4.8★
4.08K reviews 100K+ Downloads 3+
Rated for 3+

Install

Remove from wishlist



Index:

Click on the shift name to visit shift

3 Oct Shift-1 (9 to 11 AM)

3 Oct Shift-2 (12:30 to 2:30 PM)

3 Oct Shift-3 (4 to 6 PM)

4 Oct Shift-1 (9 to 11 AM)

4 Oct Shift-2 (12:30 to 2:30 PM)

4 Oct Shift-3 (4 to 6 PM)

5 Oct Shift-1 (9 to 11 AM)

5 Oct Shift-2 (12:30 to 2:30 PM)

5 Oct Shift-3 (4 to 6 PM)



RBE- Revolution By Education

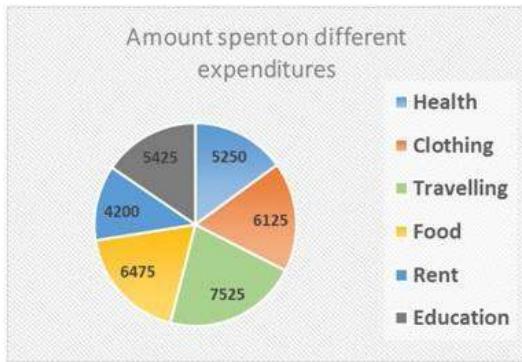


By: Shubham Jain
(Selected as GST Inspector)
Your life, Your hard work, Your success.



03/10/2023-> (9:00 AM - 11:00 AM)

What is the central angle corresponding to the expenditure spent on Education in the given figure?



Q.1)-

1. 42° 2. 52° 3. 55.8° 4. 55.2°

Study the given data and answer the question that follows.

The tables shows the number of candidates (in lakh) appearing in an entrance exam from four different cities and the ratio of candidates passing and failing in the same.

| City | A | B | C | D |
|----------------------|------|------|------|------|
| Number of candidates | 2.15 | 1.14 | 1.56 | 2.35 |

Ratio of candidates passing and failing within the city.

| City | Passing | Failing |
|------|---------|---------|
| A | 4 | 2 |
| B | 5 | 3 |
| C | 6 | 4 |
| D | 4 | 6 |

Q.2)- What is the number of failed candidates (in lakh) in city D?

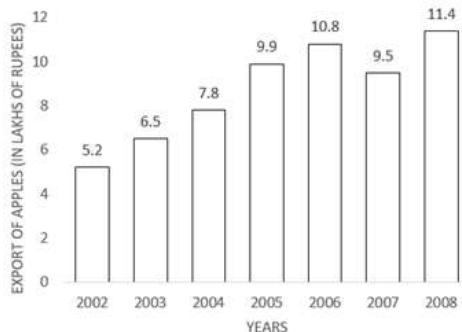
1. 1.85 2. 1.25 3. 1.41 4. 1.70

Q.3)- Rajesh invested ₹10,000 by dividing it into two different investment schemes, A and B, at simple interest rates of 8% and 10%, respectively. If the total interest earned in 2 years is ₹1,680, the amount invested in scheme A is:

1. ₹4,000 2. ₹8,000 3. ₹2,000 4. ₹6,000

Q.4)- Study the given graph carefully and answer the question that follows.

In which year was there maximum percentage increase in the export of apples to that of the previous years?



1. 2008 2. 2006 3. 2003 4. 2005

Q.5)- If $a + b = 10$ and $ab = 6$, then the value of $a^3 + b^3$ is:

1. 840 2. 860 3. 820 4. 800

Q.6)- A person crosses a 900-metre long street in 6 minutes. The speed of the person, in km/h, is:

1. 5 2. 10 3. 9 4. 8

Q.7)- If $\cos \theta - \sin \theta = \sqrt{2} \sin \theta$, then $(\cos \theta + \sin \theta)$ is:

1. $-\sqrt{2} \cos \theta$ 2. $\sqrt{2} \cos \theta$ 3. $-\sqrt{2} \sin \theta$ 4. $\sqrt{2} \tan \theta$

Q.8)- An item with a marked price of ₹3,800 was sold for ₹3,496, after a discount of $y\%$ was offered. What was the value of y ?

1. 8% 2. 8.5% 3. 7.5% 4. 7%

Q.9)- The sides of a triangle are in the ratio $5 : 12 : 13$ and its perimeter is 90 cm. Find its area (in cm^2).

1. 270 2. 150 3. 60 4. 30

Q.10)- If $\frac{x}{y} + \frac{y}{x} = 1$ and $x + y = 2$, then the value of $x^3 + y^3$ is:

1. 2 2. 0 3. 3 4. 1

Q.11)- If the height of a cone is 7 cm and the diameter of the circular base is 12 cm, then its volume is (nearest to integer):

1. 284 cm^3 2. 264 cm^3 3. 254 cm^3 4. 274 cm^3

The radii of the ends of a frustum of a solid right-circular cone 45 cm high are 28 cm and 7 cm. If this frustum is melted and reconstructed into a solid right circular cylinder whose radius of base and height are in the ratio $3 : 5$, find the curved surface area (in cm^2) of this cylinder. [Use $\pi = \frac{22}{7}$.]

Q.12)-

1. 4580 2. 4610 3. 4620 4. 4640

Q.13)- If $\tan A = \frac{4}{3}$, $0 \leq A \leq 90^\circ$, then find the value of $\sin A$.

- 3 4 3
1. $\frac{3}{5}$ 2. $\frac{4}{5}$ 3. 1 4. $\frac{3}{4}$

Q.14)- If the price item is increased by 70% and then allows a scheme discount of 5% and 20% on this marked price. If price is paid in cash and additional discount of 20% is allowed then what is his gain percentage?

1. 4.36% 2. 3.36% 3. 3.25% 4. 2.25%

Q.15)- The radii of two cylinders are in the ratio of 4 : 5 and their heights are in the ratio of 5 : 2. The ratio of their volume is:

1. 9 : 7 2. 2 : 1 3. 8 : 5 4. 9 : 4

Q.16)- Jonathan had borrowed a sum of money 3 years ago at 10% interest per annum compounded annually for a 5-year period, with the amount to be paid at the end of the period being ₹1,61,051. However, there is no pre-payment penalty and Jonathan has received some bonus payment now, with which he has decided to clear his debt. How much does Jonathan have to pay now to clear his debt?

1. ₹1,33,100 2. ₹1,32,900 3. ₹1,33,200 4. ₹1,33,000

Study the given data and answer the question that follows.

The data shows the number of candidates (in thousand) appearing for Civil Service (CS) and Engineering Service (ES) Examinations in the years 2020, 2021, 2022 in USA.

| Year | Civil Service | | Engineering Service | |
|------|----------------------------------|---|----------------------------------|---|
| | Total No. of Candidates Appeared | Graduates out of the total candidates appeared (in %) | Total No. of Candidates Appeared | Graduates out of the total candidates appeared (in %) |
| 2020 | 75 | 60 | 89 | 57 |
| 2021 | 110 | 64 | 118 | 65 |
| 2022 | 120 | 80 | 135 | 78 |

Q.17)- What is total number of graduates who appeared for both CS and ES together in the year 2022?

1. 2,01,000 2. 2,01,100 3. 2,01,300 4. 2,01,200

Q.18)- Find the value of $(\tan^2 \theta + \tan^4 \theta)$.

1. $\sec^2 \theta - \sec^4 \theta$ 2. $\sec^4 \theta + \sec^2 \theta$ 3. $\cot^2 \theta - \tan^2 \theta$ 4. $\sec^4 \theta - \sec^2 \theta$

Q.19)- A man spends 72% of his salary and saves ₹5,740 per month. What is 10% of his annual salary (in ₹)?

1. ₹21600 2. ₹20500 3. ₹24600 4. ₹28400

Q.20)- The product of two numbers is 726 and their HCF is 11, then their LCM is:

1. 58 2. 68 3. 66 4. 76

The following table represents the population of four different areas and the percentage of males, females, and children among them.

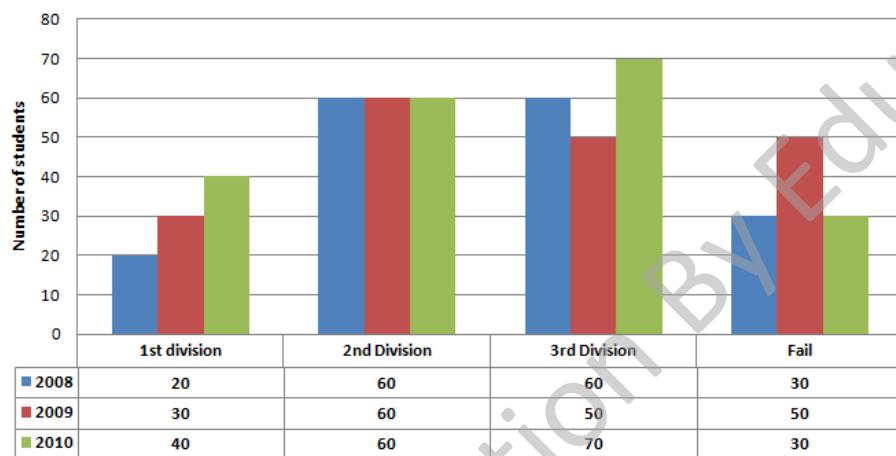
| Area | Population | Males | Females | Children |
|------|------------|-------|---------|----------|
| P | 10,000 | 40% | 40% | 20% |
| Q | 20,000 | 30% | 40% | 30% |
| R | 16,000 | 50% | 30% | 20% |
| S | 18,000 | 45% | 35% | 20% |

Q.21)- What is the total number of children in areas P and Q together?

1. 9000 2. 7000 3. 6000 4. 8000

Study the given bar-graph and answer the question that follows.

The bar-graph shows the higher secondary students of a school for the years 2008, 2009 and 2010.



The percentage of students who passed in the second division in the year

Q.22)- 2010 was:

1. 25% 2. 30% 3. 28% 4. 32%

PQR is an equilateral triangle inscribed in a circle. S is any point on the arc QR. Measure

Q.23)- of $\frac{1}{2} \angle PSQ$ is:

1. 15° 2. 60° 3. 30° 4. 20°

Q.24)- If 3 goats or 5 sheep can graze a field in 54 days, then in how many days can 6 goats and 8 sheep graze the same field?

1. 12 2. 15 3. 8 4. 10

$$\text{Evaluate } \frac{0.04}{0.05} \text{ of } \frac{\left(\frac{3}{3} - \frac{2}{2}\right) + \frac{1}{2} \text{ of } 1\frac{1}{4}}{\frac{1}{3} + \frac{1}{5} \text{ of } \frac{1}{9}}$$

Q.25)-

1. 5 2. 3 3. 0.3 4. 0.03

Q.26)- Two numbers are in the ratio 3 : 4. The product of their HCF and LCM is 2700. The sum of the numbers is:

1. 60 2. 45 3. 15 4. 105

Q.27)- If θ is an acute angle and $\sin \theta + \operatorname{cosec} \theta = 2$, then the value of $\sin^5 \theta + \operatorname{cosec}^5 \theta$ is:

1. 5 2. 2 3. 10 4. 4

Q.28)- If a truck moves at a constant speed of 30 km/h for 1 kilometre and 45 km/h for the next 1 kilometre. What is the average speed of the truck?

1. 38 km/h 2. 36 km/h 3. 32 km/h 4. 34 km/h

Q.29)- P, Q and R, when working individually, can complete a job in, respectively, 36 days, 48 days and 144 days. P, Q and R start working together. P leaves the job 12 days before completion and Q leaves the job 8 days before completion. R works from the beginning till the end of the job. Determine the total number of days taken to complete the job.

1. 27 2. 24 3. 30 4. 25

Q.30)- The population of a city is 3,52,314. It increases annually at the rate of 15% per annum. What was its population 2 years ago?

1. 2,66,400 2. 3,02,400 3. 2,56,400 4. 3,06,360

Q.31)- A man runs for 40 km. The time taken by him in the first 10 km is twice the time taken by him in the second 10 km. The time taken in the third 10 km is half of the time taken in the fourth 10 km, and the time taken in the fourth 10 km is equal to the time taken in the first 10 km. If his speed in the first 10 km is 40 km/h, then what is the average speed for 40 km?

1. $\frac{160}{3}$ km/h 2. 50 km/h 3. 40 km/h 4. $\frac{70}{3}$ km/h

Q.32)- The value of $11 \times 11 + 11 \div 11 - 11 \times 11 + 11 + 11 \times 11 - 11 - 11 \times 11$ is:

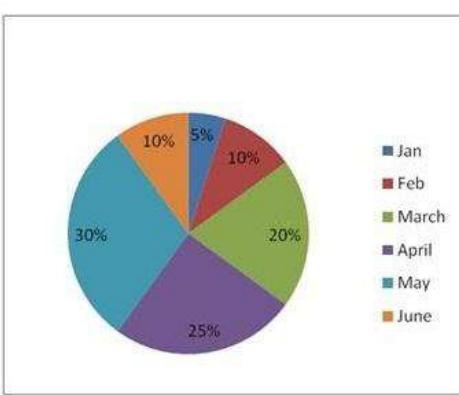
1. 1 2. 0 3. 11 4. 121

Q.33)- If the hypotenuse of a right-angled triangle is 29 cm and the sum of the other two sides is 41 cm, then the difference between the other two sides is:

1. 10 cm 2. 2 cm 3. 5 cm 4. 1 cm

Darjeeling gets tourists from two countries A and B. Percentage wise distribution of the influx of tourists is given below for the first six months of the year.

| | |
|----------------------------------|--------------|
| Total number of tourists = 60000 | |
| Month | Ratio(A : B) |
| Jan | 5:7 |
| Feb | 6:7 |
| Mar | 3:2 |
| April | 8:7 |
| May | 4:5 |
| June | 3:4 |



Find the ratio of tourists from country A coming in during March and April.

Q.34)-

1. 9:10 2. 7:10 3. 3:7 4. 4:7

Q.35)- The first shirt is sold at twice the selling price of the second shirt. The first shirt is sold at 8% profit and the second shirt is sold at a 3% loss. What is the overall percentage profit on the shirts (Rounded off to two decimal place)?

1. 4.07% 2. 3.86% 3. 4.60% 4. 4.86%

Q.36)- A number is first increased by 10% and then increased by 20%. The number, so obtained, is now decreased by 12%. What is the net increase or decrease per cent in the original number?

1. 12.12% increase 2. 16.16% increase 3. 11.11% decrease 4. 14.14% decrease

The following data gives a year-wise outlay (in lakhs of rupees) in a certain 4-year plan (2018-2022) of a state.

| Year | Health | Housing | Transport | Education |
|-----------|--------|---------|-----------|-----------|
| 2018-2019 | 6200 | 6500 | 7100 | 8000 |
| 2019-2020 | 7000 | 6600 | 7200 | 8100 |
| 2020-2021 | 7300 | 6800 | 7400 | 8200 |
| 2021-2022 | 7400 | 7000 | 7500 | 8400 |

Q.37)- What was the percentage increase during 2020-2021 over 2018-2019 in Education outlay?

1. 3.2% 2. 2.5% 3. 2.0% 4. 2.8%

Q.38)- A, B and C can do a piece of work in 20 days, 30 days and 60 days respectively. If A works daily and on every third day B and C also work with A, then in how many days, will the work be completed?

1. 21 2. 12 3. 18 4. 15

Q.39)- Find the LCM of 15, 24, 35 and 54.

1. 5670 2. 6570 3. 7650 4. 7560

Q.40)- A tourist van travels the distance of 35 km from Dehradun to Mussoorie at an average speed of 36 km/h and returns at 60 km/h. What is the approximate average speed (in km/h) of the tourist van for the entire journey?

1. 42 2. 45 3. 48 4. 50

Q.41)- Two circles of radius 13 cm and 15 cm intersect each other at points A and B. If the length of the common chord is 12 cm, then what is the distance between their centres?

1. $\sqrt{131} + \sqrt{181}$ 2. $\sqrt{145} + \sqrt{184}$ 3. $\sqrt{145} + \sqrt{169}$ 4. $\sqrt{133} + \sqrt{189}$

Q.42)- The HCF and the LCM of two numbers are 5 and 175, respectively. If the ratio of the two numbers is 5:7, the larger of the two numbers is _____.

1. 25 2. 75 3. 45 4. 35

Q.43)- The largest number of four digits that is exactly divisible by 17 and 36 is:

1. 9180 2. 7956 3. 8568 4. 9792

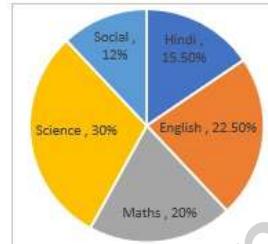
Q.44)- Two numbers are in the ratio 5:3 and the difference between these two numbers is 34. Find the smaller of the two numbers.

1. 85 2. 68 3. 34 4. 51

Q.45)- A dishonest dealer announces selling his articles with 22% loss, but uses 35% lighter weights. What is the percentage of his profit or loss?

1. 13% loss 2. 20% profit 3. 20% loss 4. 13% profit

Q.46)- The given pie-chart shows the distribution of the marks scored by Ram in five different subjects (in percentage).



What is the ratio of the central angle of Maths to the central angle of Science?

1. 3 : 5 2. 4 : 3 3. 5 : 2 4. 2 : 3

Q.47)- Let the speed of the boat in still water be 17 km/h and let the speed of the stream be 5 km/h. What is the time taken by the boat to go 110 km downstream?

1. 5 hours 2. 5.5 hours 3. 4.5 hours 4. 6 hours

Q.48)- What is the area of a triangle whose sides are of lengths 12 cm, 13 cm and 5 cm?

1. 15 cm² 2. 40 cm² 3. 30 cm² 4. 70 cm²

Q.49)- The areas of the two triangles are in the ratio 4 : 3 and their heights are in the ratio 6 : 5. Find the ratio of their bases.

1. 9 : 10 2. 10 : 9 3. 5 : 6 4. 6 : 5

Q.50)- If 42, 36 and 35 are the first three terms of a proportion, then the fourth term is:

1. 27 2. 28 3. 30 4. 32

Answer key

| | | | | | | | | | |
|------|---|------|---|------|---|------|---|------|---|
| Q.1 | 3 | Q.2 | 3 | Q.3 | 2 | Q.4 | 4 | Q.5 | 3 |
| Q.6 | 3 | Q.7 | 2 | Q.8 | 1 | Q.9 | 1 | Q.10 | 2 |
| Q.11 | 2 | Q.12 | 3 | Q.13 | 2 | Q.14 | 2 | Q.15 | 3 |
| Q.16 | 1 | Q.17 | 3 | Q.18 | 4 | Q.19 | 3 | Q.20 | 3 |
| Q.21 | 4 | Q.22 | 2 | Q.23 | 3 | Q.24 | 2 | Q.25 | 2 |
| Q.26 | 4 | Q.27 | 2 | Q.28 | 2 | Q.29 | 1 | Q.30 | 1 |
| Q.31 | 1 | Q.32 | 1 | Q.33 | 4 | Q.34 | 1 | Q.35 | 1 |
| Q.36 | 2 | Q.37 | 2 | Q.38 | 4 | Q.39 | 4 | Q.40 | 2 |
| Q.41 | 4 | Q.42 | 4 | Q.43 | 4 | Q.44 | 4 | Q.45 | 2 |
| Q.46 | 4 | Q.47 | 1 | Q.48 | 3 | Q.49 | 2 | Q.50 | 3 |



RBE- Revolution By Education



By: Shubham Jain
(Selected as GST Inspector)
Your life, Your hard work, Your success.



03/10/2023-> (12:30 PM - 2:30 PM)

Q.1)- John can do a piece of work alone in 20 days, while Ravi can do the same piece of work alone in 28 days. In how many days can the duo complete the same work if they work together?

1. $12\frac{1}{3}$ 2. $11\frac{2}{3}$ 3. $11\frac{1}{3}$ 4. $12\frac{2}{3}$

Q.2)- What is the length (in cm) of the transverse common tangent between two circles with radii 6 cm and 4 cm, given that the distance between their centres is 14 cm?

1. $3\sqrt{6}$ 2. $4\sqrt{6}$ 3. $2\sqrt{6}$ 4. $5\sqrt{6}$

Q.3)- If $\cos A = \frac{15}{17}$, $0 \leq A \leq 90^\circ$, then the value of $\cot(90^\circ - A)$ is:

1. $\frac{8}{15}$ 2. $\frac{7}{15}$ 3. $\frac{2\sqrt{2}}{15}$ 4. $\frac{\sqrt{2}}{15}$

Q.4)- The least common multiple of 210, 336 and 504 is :

1. 4560 2. 2100 3. 5040 4. 3360

The table given below shows the number of products sold by 4 shopkeepers A, B, C and D on four different days.

| person Days | A | B | C | D |
|----------------|------|------|-----|-----|
| Monday | 1000 | 800 | - | 750 |
| Tuesday | 500 | - | 900 | 650 |
| Wednesday | 800 | 1000 | 700 | - |
| Thursday | - | 1200 | 800 | 900 |

If the total products sold by A and B, including all four days, is 3000 and 3500, respectively, the products sold by B on Tuesday is how many more or less than the products sold by A on Thursday?

Q.5)-

1. 300 less 2. 300 more 3. 200 less 4. 200 more

Q.6)- What will be the difference between the total surface area and the curved surface area of a hemisphere having 4 cm diameter?

1. $4.4\pi \text{ cm}^2$ 2. $8\pi \text{ cm}^2$ 3. $5\pi \text{ cm}^2$ 4. $4\pi \text{ cm}^2$

Q.7)- If $\frac{A}{L} + \frac{M}{B} = 1$ and $\frac{B}{M} + \frac{N}{C} = 1$, then the value of $\frac{L}{A} + \frac{C}{N}$ is:

1. $\frac{B}{M}$ 2. 0 3. $\frac{M}{B}$ 4. 1

Q.8)- The given table shows marks obtained by four students in four subjects.

| Subjects Student | Maths (100) | English (100) | Science (100) | Hindi (100) |
|---------------------|----------------|------------------|------------------|----------------|
| A | 75 | 80 | 75 | 85 |
| B | 80 | 70 | 70 | 80 |
| C | 70 | 85 | 85 | 75 |
| D | 85 | 75 | 80 | 70 |

The average percentage of marks obtained by all students in Hindi is:

1. 77.6% 2. 77.5% 3. 77.8% 4. 77.0%

Q.9)- An item with a marked price of ₹1,940 was sold at a discount of 15%. At what price (in ₹) was the item sold?

1. 1639 2. 1654 3. 1659 4. 1649

Q.10)- If the marked price is 75% more than the cost price and a discount of 40% is allowed on the marked price, then the percentage profit is:

1. 8% 2. 7% 3. 6% 4. 5%

What is the value of the given expression?

Q.11)- $\frac{1}{12} + \frac{1}{16} + \frac{1}{8}$

1. $\frac{13}{18}$ 2. $\frac{13}{48}$ 3. $\frac{10}{72}$ 4. $\frac{3}{48}$

Q.12)- Find the greatest number which when divides 261, 853 and 1221, leaves a remainder of 5 in each case.

1. 19 2. 16 3. 17 4. 18

Q.13)- A hostel mess requires 217 eggs for a week. How many eggs will it require in total for the months of July, August and September?

1. 2821 2. 2852 3. 2790 4. 2883

Q.14)- If $a \propto b$, $b \propto \frac{1}{c}$ and $c \propto d$, then the relation between a and d is:

1. $a \propto \frac{1}{d}$ 2. $a \propto d$ 3. $a \propto \sqrt{d}$ 4. $a \propto d^2$

Q.15)- A can do a piece of work in 8 days, while B can do it in 7 days. If they work at it alternately beginning with A, then in how many days will the work be completed?

1. 7 2. 8 3. $7\frac{1}{2}$ 4. $8\frac{1}{2}$

For a triangle ABC, D and E are two points on AB and AC such that $AD = \frac{1}{6}AB$,

Q.16)- $AE = \frac{1}{6}AC$. If BC = 22 cm, then DE is _____. (Consider up to two decimals)

1. 3.33 cm 2. 3.67 cm 3. 1.33 cm 4. 1.67 cm

The cost of painting the total surface area of a 30 m high solid right circular cylinder at the rate of ₹25 per m^2 is ₹18,425. What is the volume (in m^3) of this cylinder [use $\pi = \frac{22}{7}$]?

Q.17)- _____

1. 1145 2. 1155 3. 1122 4. 1210

Reema runs $\frac{5}{4}$ times as fast as Rekha. In view of this Reema allows Rekha a lead of 50 metres to Rekha in a friendly race competition. What is the distance from the starting point where both Reema and Rekha meet?

Q.18)-

1. 225 m 2. 250 m 3. 200 m 4. 240 m

Study the given table and answer the question that follows.

The table shows the number of students doing various courses in various cities.

| City | MBA | MCA | M.Sc. | M.Com. | M.A. | Total |
|-----------|------|------|-------|--------|------|-------|
| Ahmedabad | 1234 | 1384 | 1440 | 1289 | 1332 | 6679 |
| Bengaluru | 1156 | 1783 | 1874 | 1003 | 1340 | 7156 |
| Bhopal | 1187 | 1347 | 1532 | 1321 | 1486 | 6873 |
| Chennai | 1342 | 1473 | 1129 | 1765 | 1666 | 7375 |
| New Delhi | 1230 | 1098 | 1128 | 1865 | 1777 | 7098 |
| Hyderabad | 1456 | 1234 | 1556 | 1653 | 1789 | 7688 |
| Kolkata | 1239 | 1785 | 1865 | 1504 | 1762 | 8155 |

In Chennai, the number of students in MBA is nearly what percentage of students in M.A? (rounded off to 2 digits after decimal)

Q.19)-

1. 76.25% 2. 80.55% 3. 92.12% 4. 99.23%

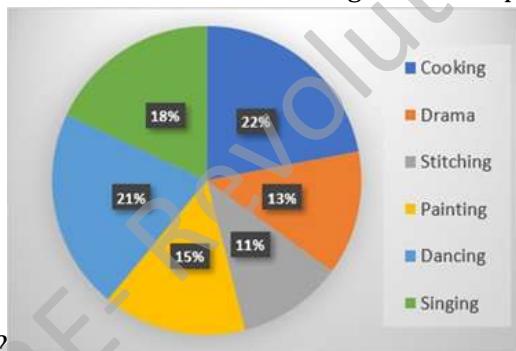
Q.20)- A sum of ₹1,00,000 was taken from a bank at the rate of 7% p.a to be compounded annually for 5 years. Calculate the compound interest. (Closest to a ₹)

1. ₹40,567 2. ₹40,255 3. ₹20,963 4. ₹40,000

Q.21)- Study the given pie-chart and answer the question that follows.

The pie-chart shows the percentage of 3600 students enrolled in different hobby classes in a school.

The number of students enrolled in Painting classes is approximately what percentage of those enrolled in



Singing classes?

1. 9.8% 2. 10.8% 3. 8.3% 4. 7.8%

Q.22)- In a village election, Sharuk got 80% of the total valid votes. 10% of the votes were invalid. If the total number of votes was 4500, then find the number of valid votes the other candidate got.

1. 810 2. 620 3. 530 4. 450

Q.23)- In what ratio must a shopkeeper mix two types of rice worth ₹55 per kg and ₹70 per kg, so that the average cost of the mixture is ₹65 per kg?

1. 1 : 2 2. 1 : 3 3. 2 : 3 4. 3 : 2

Q.24)- If the difference between the selling prices of an article at profits of 10% and 7% is ₹6, then the cost price (in ₹) of the article is:

1. 175 2. 100 3. 150 4. 200

Q.25)- Find the LCM of $\frac{3}{2}$, $\frac{81}{16}$ and $\frac{9}{8}$.

1. $\frac{111}{2}$ 2. $\frac{91}{2}$ 3. $\frac{101}{2}$ 4. $\frac{81}{2}$

Study the given table and answer the question that follows.

The table shows the number of cakes sold by four different bakeries in 4 different months.

| Bakery \ Month | August | September | October | November |
|----------------|--------|-----------|---------|----------|
| P | 250 | 241 | 213 | 168 |
| Q | 175 | 189 | 201 | 122 |
| R | 164 | 145 | 129 | 168 |
| S | 224 | 154 | 184 | 209 |

What is the difference between the total number of cakes sold by bakeries Q and S together in September and the total number of cakes sold by bakeries P and R together in November?

Q.26)-

1. 10 2. 8 3. 7 4. 9

Q.27)- If an amount of ₹80 becomes ₹96 in 2 years in a bank account which gives simple annual interest, then an amount of ₹62,000 will become _____ in the same account after 5 years.

1. ₹82,400 2. ₹93,000 3. ₹88,200 4. ₹84,600

Q.28)- Find the value of $\frac{\cos 65^\circ}{\sin 25^\circ} + \frac{5 \sin 19^\circ}{\cos 71^\circ} - \frac{3 \cos 28^\circ}{\sin 62^\circ}$.

1. 0 2. 1 3. 3 4. 2

Q.29)- Study the given table and answer the question that follows.

The table shows the production of five types of cars P, Q, R, S and T by a company from the year 1989 to 1994. During the period 1989-94, which type of car featured a continuous increase in production?

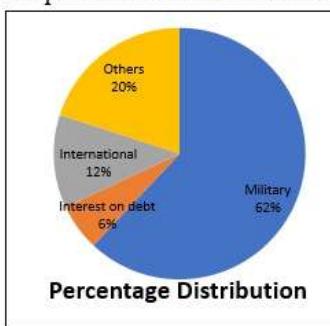
| Type of Car | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | Total |
|-------------|------|------|------|------|------|------|-------|
| P | 8 | 20 | 16 | 17 | 21 | 6 | 88 |
| Q | 16 | 10 | 14 | 12 | 12 | 14 | 78 |
| R | 21 | 17 | 16 | 15 | 13 | 8 | 90 |
| S | 4 | 6 | 10 | 16 | 20 | 31 | 87 |
| T | 25 | 18 | 19 | 30 | 14 | 27 | 133 |
| Total | 74 | 71 | 75 | 90 | 80 | 86 | 476 |

1. S 2. P 3. R 4. Q

Q.30)- A conical shape vessel has a radius of 21 cm and has a slant height of 25 cm. If the curved part of the vessel is to be painted white, find the cost (in ₹) of painting at the rate of ₹1.5 per cm².

1. 1250 2. 825 3. 1650 4. 2475

Study the given pie-chart and answer the question that follows.
The pie-chart shows the National Budget Expenditure in the year 2019.



If ₹850 billion were spent in year 2019 for interest on debt and military, then what would have been the total expenditure for that year (in ₹ billion)?

Q.31)-

1. 1,250 2. 1,700 3. 1,300 4. 1,450

Q.32)- The volume of a right circular cone having a base diameter of 14 cm is $196\pi \text{ cm}^3$. Find the perpendicular height of this cone

1. 12 cm 2. 10 cm 3. 8 cm 4. 14 cm

Q.33)- The curved surface area of a cone whose base radius is 7 cm and slant height is 10 cm is:

1. 300 cm^2 2. 220 cm^2 3. 250 cm^2 4. 280 cm^2

Q.34)- A thief is noticed by a policeman from a distance of 300 m. The thief starts running and the policeman starts chasing him. The thief and policeman run at the rate of 11 km/h and 13 km/h, respectively. After running for how many kilometres will the policeman be able to catch the thief?

1. 1.75 2. 1.85 3. 1.65 4. 1.95

Q.35)- If $\cot \theta = \frac{4}{3}$, $0 < \theta < \frac{\pi}{2}$, and $5p\cos^2\theta \sin \theta = \cot^2\theta$, then the value of p is:

1. $\frac{25}{27}$ 2. $\frac{5}{27}$ 3. $\frac{7}{27}$ 4. $\frac{125}{27}$

Q.36)- The LCM of $\frac{1}{3}, \frac{3}{5}, \frac{4}{7}$ and $\frac{9}{16}$ is:

1. 36 2. 38 3. 81 4. 49

Q.37)- Sukhvir purchased some perishable items for sale but 30% of those items could not be sold and went bad. However, Sukhvir managed to sell the rest of the items at a price that helped him earn an overall profit of 19%. At what percentage above the cost price of each item purchased by Sukhvir did he sell each of the items that did not go bad?

1. 49% 2. 70% 3. 63% 4. 75%

Q.38)- Swastik saves 20% of his income while spends the remaining amount on food, rent, education and shopping. 15% of the income is spent on food, while ₹12,800 is spent on rent, ₹32,000 on education and ₹7,200 on shopping. The amount spent on shopping is 11.25% of the total expenditure. How much money (in ₹) is spent on food?

1. 10800 2. 15000 3. 9600 4. 12000

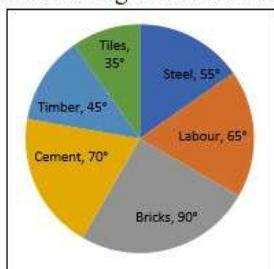
$$\frac{a^2 - b^2 - 2bc - c^2}{a^2 + b^2 + 2ab - c^2}$$

Q.39)- Simplify the given expression.

1. $\frac{a - b + c}{a + b - c}$ 2. $\frac{a + b - c}{a - b - c}$ 3. $\frac{a + b + c}{a - b - c}$ 4. $\frac{a - b - c}{a + b - c}$

Study the given pie-chart and answer the question that follows.

The pie-chart shows total expenditure of ₹3,00,00,000 on different items for constructing a flat in a town.



Q.40)- The percentage of the total expenditure on Labour and Timber is:

1. $30\frac{1}{9}\%$ 2. $30\frac{5}{9}\%$ 3. $30\frac{1}{3}\%$ 4. $30\frac{7}{9}\%$

Q.41)- Evaluate $6.9 - [8.6 - \{6.5 - (5.4 - \overline{4.3 - 2})\}]$.

1. 1.6 2. 1.7 3. 1.8 4. 1.9

Q.42)- Find the greatest possible length (in metres) that can be used to exactly measure the lengths 6 m, 5 m 25 cm and 12 m 50 cm.

1. 0.75 m 2. 0.35 m 3. 0.90 m 4. 0.25 m

Q.43)- P and Q can do a work together in 30 days. Q and R can do the same work together in 24 days and R and P together in 20 days. They started the work together, but Q and R left after 10 days. How many more days will P take to finish the remaining work?

1. 21 2. 23 3. 18 4. 19

A sector of a circle has a central angle of 45° and an arc length of 22 cm.

Q.44)- Find the radius of the circle. (Use $\pi = \frac{22}{7}$.)

1. 36 cm 2. 32 cm 3. 28 cm 4. 35 cm

Q.45)- The perimeter of a sector of a circle is 24 cm and the radius is 3 cm. Calculate the area (in cm^2) of the sector.

1. 24 2. 27 3. 33 4. 30

Q.46)- Train 'A' requires 15 seconds to cross train 'B' of length 300 m moving in the opposite direction at a speed of 36 km/h. Further, train 'A' requires 30 seconds to cross a 500 m long stationary train 'C'. Find the length (in m) of train 'A'.

1. 275 2. 300 3. 200 4. 250

Q.47)- At a courier shop, the weights of 8 parcels were found to be 1.5 kg, 1.25 kg, 1.35 kg, 750 gm, 950 gm, 0.7 kg, 0.4 kg, and 0.5 kg.

Find their average weight.

1. 875gm 2. 900gm 3. 700gm 4. 925gm

Q.48)- The value of $(1 + \sin^4 A - \cos^4 A) \operatorname{cosec}^2 A$ is:

1. 2 2. 1 3. -2 4. -1

Q.49)- What is the number of valid votes cast in favour of a candidate in an election, if the candidate received 75% of the total valid votes, and 5% of the total votes were declared invalid, given that the total number of voters was 1,46,000?

1. 1,06,650 2. 1,10,250 3. 1,04,025 4. 1,08,850

Q.50)- Study the given table and answer the question that follows.

The table shows the production of five types of cars P, Q, R, S and T by a company from the year 1989 to 1994. During the period 1989-94, which type of car featured a continuous decrease in production?

| Type of Car | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | Total |
|-------------|------|------|------|------|------|------|-------|
| P | 8 | 20 | 16 | 17 | 21 | 6 | 88 |
| Q | 16 | 10 | 14 | 12 | 12 | 14 | 78 |
| R | 21 | 17 | 16 | 15 | 13 | 8 | 90 |
| S | 4 | 6 | 10 | 16 | 20 | 31 | 87 |
| T | 25 | 18 | 19 | 30 | 14 | 27 | 133 |
| Total | 74 | 71 | 75 | 90 | 80 | 86 | 476 |

1. Q 2. T 3. R 4. S

Answer key

| | | | | | | | | | |
|------|---|------|---|------|---|------|---|------|---|
| Q.1 | 2 | Q.2 | 2 | Q.3 | 1 | Q.4 | 3 | Q.5 | 3 |
| Q.6 | 4 | Q.7 | 4 | Q.8 | 2 | Q.9 | 4 | Q.10 | 4 |
| Q.11 | 2 | Q.12 | 2 | Q.13 | 2 | Q.14 | 1 | Q.15 | 3 |
| Q.16 | 2 | Q.17 | 2 | Q.18 | 2 | Q.19 | 2 | Q.20 | 2 |
| Q.21 | 3 | Q.22 | 1 | Q.23 | 1 | Q.24 | 4 | Q.25 | 4 |
| Q.26 | 3 | Q.27 | 2 | Q.28 | 3 | Q.29 | 1 | Q.30 | 4 |
| Q.31 | 1 | Q.32 | 1 | Q.33 | 2 | Q.34 | 4 | Q.35 | 1 |
| Q.36 | 1 | Q.37 | 2 | Q.38 | 4 | Q.39 | 4 | Q.40 | 2 |
| Q.41 | 2 | Q.42 | 4 | Q.43 | 3 | Q.44 | 3 | Q.45 | 2 |
| Q.46 | 3 | Q.47 | 4 | Q.48 | 1 | Q.49 | 3 | Q.50 | 3 |



RBE- Revolution By Education



By: Shubham Jain
(Selected as GST Inspector)
Your life, Your hard work, Your success.



03/10/2023-> (4:00 PM - 6:00 PM)

Q.1)- Find the third proportional to 23 and 31.

1. $\frac{23}{31}$ 2. $\frac{31}{23}$ 3. $\frac{961}{23}$ 4. $\frac{23}{961}$

Q.2)- If 4 men or 6 boys can finish a piece of work in 20 days, then in how many days can 6 men and 11 boys finish the same work?

1. 5 2. 8 3. 6 4. 7

Ramesh does half as much work as Parul in $\frac{4}{5}$ of the time. If together Ramesh and Parul take 24 days to complete the work, then how much time will Parul take to do it?

Q.3)- 1. 41 days 2. 37 days 3. 38 days 4. 39 days

Q.4)- The length and the breadth of the floor of a rectangular hall are 126 feet and 90 feet, respectively. What will be the area (in square feet) of each of the largest identical square tiles that can be used to tile this floor in a way that no part of the floor remains uncovered?

1. 196 2. 484 3. 256 4. 324

Q.5)- The price of a treadmill is marked at ₹1,250. A shopkeeper earns a profit of 14% after allowing a discount of 14% on the marked price. Find the cost price (to the nearest rupee) of the treadmill.

1. ₹840 2. ₹845 3. ₹943 4. ₹1,043

Q.6)- If $\tan A = \frac{2}{5}$ find the value of $\frac{\sec^2 A}{\cosec^2 A}$.

1. $\frac{2}{5}$ 2. $\frac{4}{25}$ 3. $\frac{3}{5}$ 4. $\frac{9}{25}$

Q.7)- What is the HCF of 12, 18 and 42?

1. 12 2. 6 3. 60 4. 123

Q.8)- In two circles centred at O and O', the distance between the centres of both circles is 17 cm. The points of contact of a direct common tangent between the circles are P and Q. If the radii of both circles are 7 cm and 15 cm, respectively, then the length of PQ is equal to:

1. 10 cm 2. 17 cm 3. 22 cm 4. 15 cm

Q.9)- If $\sin \theta + \cos \theta = \frac{\sqrt{11}}{3}$, then the value of $(\cos \theta - \sin \theta)$ is:

1. $\frac{5}{3}$ 2. $\frac{\sqrt{5}}{3}$ 3. $\frac{7}{3}$ 4. $\frac{\sqrt{7}}{3}$

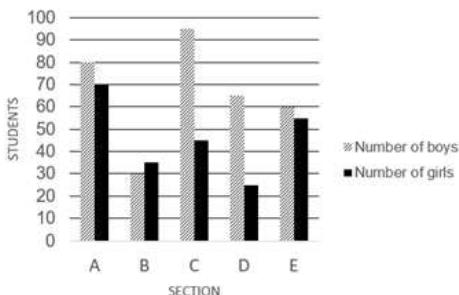
Q.10)- The area of an equilateral triangle is $4\sqrt{3}$ cm². Find the side (in cm) of the triangle.

1. 2 2. 4 3. $\sqrt{3}$ 4. $2\sqrt{3}$

Q.11)- Study the given graph and answer the following question.

Number of boys and girls students in each section.

The number of boy students in section B is approximately what percentage of the number of girl students in



section E?

1. 2.25% 2. 5.5% 3. 1.15% 4. 4.45%

Q.12)- If $(48 \div 72 \times 3) - [15 \div 8 \times (40 - 32) - 10] + 2P = 6 \div 2$, then find the value of P?

1. 2 2. 3 3. 1 4. 4

The following table shows the earning of different firms (in ₹ crore) in different years.

| Firm \ Year | 2012 | 2013 | 2014 | 2015 | 2016 |
|-------------|------|------|------|------|------|
| P | 50 | 45 | 49 | 56 | 57 |
| Q | 46 | 48 | 50 | 55 | 62 |
| R | 70 | 65 | 63 | 68 | 73 |
| S | 38 | 47 | 56 | 60 | 69 |

Q.13)- The earning (in ₹ crore) of which firm was highest in the year 2015?

1. R 2. S 3. Q 4. P

Q.14)- The area of an equilateral triangle is 173.2 cm². Its side will be _____.

1. 22 cm 2. 17.32 cm 3. 21.32 cm 4. 20 cm

Q.15)- Mayur sold a watch at a profit of 7%. If he had sold it for ₹1,329 more, he would have gained 57%. Find the cost price (in ₹) of the watch.

1. 2420 2. 2580 3. 2658 4. 2856

Q.16)- A solid sphere made of wax of radius 12 cm is melted and cast into solid hemispheres of radius 4 cm each. Find the number of such solid hemispheres.

1. 54 2. 14 3. 27 4. 28

Q.17)- A person covers 28 km while walking at a speed of 8 km/h. How much distance (in km) will he cover in same time if he walks at a speed of 6 km/h?

1. 21 2. 28 3. 36 4. 32

Q.18)- If $\sin 2A = \cos 15^\circ$, then the smallest positive value of A is:

1. 47.5° 2. 37.5° 3. 7.5° 4. 75°

Study the given table and answer the question that follows.

The table shows the number of pages printed by four printers in three days.

| Days | Printers | | | |
|----------|----------|-----|-----|-----|
| | A | B | C | D |
| Friday | 350 | 451 | 412 | 206 |
| Saturday | 420 | 325 | 365 | 251 |
| Sunday | 238 | 198 | 258 | 326 |

What is the respective ratio between total number of pages printed by printer D on Friday and Sunday together and total number of pages printed by printer A on Friday and Saturday together?

Q.19)-

1. $55 : 38$ 2. $38 : 55$ 3. $51 : 34$ 4. $34 : 51$

The following table shows the percentage of students passing out of four colleges (A,B,C and D) over four years. Study the table and answer the question that follows.

| Years | College A | College B | College C | College D |
|-------|-----------|-----------|-----------|-----------|
| 2019 | 68 | 78 | 56 | 78 |
| 2020 | 72 | 86 | 78 | 82 |
| 2021 | 78 | 91 | 82 | 85 |
| 2022 | 80 | 87 | 84 | 87 |

In which college is the average percentage of passing students over the given four years the least?

Q.20)-

1. College B 2. College C 3. College A 4. College D

Q.21)- In an election, Ajay and Mohan are contesting for the Secretary post in a trade union of 9000 workers. 80% of the workers cast their votes, out of which 20% votes were found invalid. Ajay defeated Mohan by 1152 votes. How many votes did Ajay get?

1. 3546 2. 4480 3. 2304 4. 3456

Q.22)- If 60 litres of a milk solution has 40% milk in it, then how much milk should be added to make the milk 60% in the solution?

1. 30 litres 2. 25 litres 3. 20 litres 4. 35 litres

Q.23)- A speedboat, whose speed in 20 km/h in still water, goes 35 km downstream and comes back in a total of 8 hours. What is the speed of the stream?

1. 20 km/h 2. 10 km/h 3. 5 km/h 4. 15 km/h

If $A + B = 90^\circ$, then the expression $\frac{\cot A}{\cot B} + \cos^2 A + \cos^2 B$ is equal to:

Q.24)-

1. $\cot^2 B$ 2. $\operatorname{cosec}^2 A$ 3. $\cot^2 A$ 4. $\operatorname{cosec}^2 B$

If $A + \frac{1}{1 + \frac{1}{2 + \frac{1}{3}}} = \frac{9}{10}$, then the value of A is:

Q.25)-

1. $\frac{2}{5}$ 2. $\frac{3}{10}$ 3. $\frac{1}{10}$ 4. $\frac{1}{5}$

Q.26)- The average weight of 15 people increases by 3.2 kg when a new person comes in place of one of them weighing 52 kg. The weight of the new person is:

1. 48 kg 2. 100 kg 3. 52 kg 4. 96 kg

Q.27)- Study the given table and answer the question that follows.

The table shows the number of employees in five different organisations A, B, C, D and E in different departments.

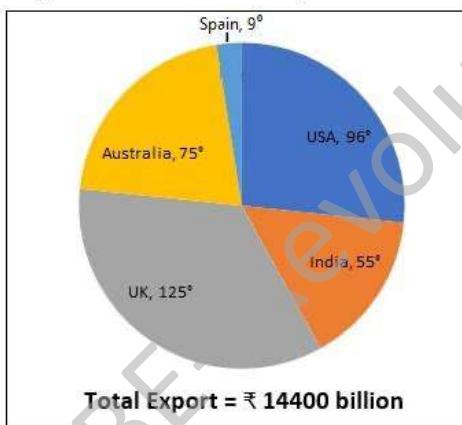
Which organisation has minimum number of employees?

| Dept ↓ Org → | A | B | C | D | E |
|-----------------|------|------|------|------|------|
| HR | 1050 | 1015 | 976 | 888 | 1004 |
| Finance | 1017 | 960 | 786 | 1025 | 963 |
| Marketing | 1382 | 1384 | 1275 | 1300 | 1290 |
| Production | 1542 | 1545 | 4550 | 1570 | 1580 |
| Accounts | 786 | 745 | 801 | 800 | 735 |
| Legal | 48 | 54 | 36 | 30 | 53 |
| Total | 5825 | 5703 | 5424 | 5613 | 5625 |

1. D 2. C 3. E 4. B

Study the given pie-chart and answer the question that follows.

The pie-chart is about Country-wise Global Exports Presentation.



By how much does the value of the exports of UK exceed that of Australia (in ₹ billion)?

Q.28)-

1. 1,500 2. 1,440 3. 2,550 4. 2,000

Q.29)- Jeevan can do a piece of work alone in 42 days, while Rishi and Jeevan together can do the same piece of work in 27 days. How many days will Rishi take to complete the same piece of work alone?

1. $75\frac{3}{5}$ 2. $74\frac{3}{5}$ 3. $75\frac{4}{5}$ 4. $75\frac{1}{5}$

Q.30)- What should be the value in place of (?) in $7\frac{5}{8} + \frac{5}{8}$ of $184 \times 15 \div 5 - (?) = 0$.

1. $-352\frac{5}{8}$ 2. $152\frac{1}{8}$ 3. $352\frac{5}{8}$ 4. $-152\frac{1}{8}$

Q.31)- If the radius of a sphere is doubled, then its surface area will be increased by:

1. 200% 2. 400% 3. 300% 4. 100%

Q.32)- The area of a sector of a circle of radius 8 cm, formed by an arc of length 4.6 cm, is ____.

1. 18.4 cm^2 2. 9.2 cm^2 3. 12.6 cm^2 4. 6.3 cm^2

Q.33)- In an election between P and Q, P gets 40% of the total votes and thus loses by 10 votes. The total number of votes is:

1. 90 2. 50 3. 80 4. 70

Q.34)- Ramesh borrowed some money at rate of 5% per annum for the first four years, 8% per annum for the next six years, and 12% per annum for the period beyond ten years. If the total interest paid by him at the end of twelve years is ₹9,016, then find the money borrowed by Ramesh.

1. ₹9,616 2. ₹9,816 3. ₹9,800 4. ₹9,016

Q.35)- Study the given table and answer the question that follows.

The table shows the consumption of food grains per day (in grams) in the given set of following years.

For which food grain consumption was there successive increase over the given set of years?

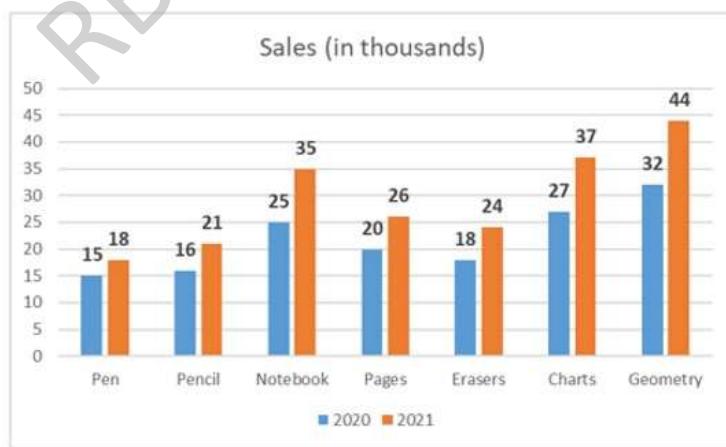
| Year | Rice | Wheat | Coarse grains | Pulses |
|---------|------|-------|---------------|--------|
| 1960-62 | 161 | 62 | 131 | 61 |
| 1970-72 | 197 | 81 | 116 | 64 |
| 1980-82 | 187 | 116 | 103 | 46 |
| 1990-92 | 189 | 124 | 101 | 44 |
| 2000-02 | 201 | 137 | 86 | 64 |

1. Coarse grains 2. Wheat 3. Rice 4. Pulses

Q.36)- If $x \left(5 - \frac{2}{x}\right) = \frac{5}{x}$, then the value of $x^2 + \frac{1}{x^2}$ is:

1. $\frac{53}{28}$ 2. $\frac{54}{23}$ 3. $\frac{53}{27}$ 4. $\frac{54}{25}$

Following is the figure showing the sales of different items of a stationery shop. Which product recorded the highest percentage change from 2020 to 2021?



Q.37)-

1. Pages 2. Charts 3. Geometry 4. Notebook

Q.38)- The LCM of two prime numbers x and y ($x > y$) is 533. The value of $4y - x$ is:

1. 18 2. 11 3. 21 4. 23

Q.39)- The curved surface area (CSA) and the total surface area (TSA) of a hemisphere whose radius is 7 cm are:

1. CSA – 308 cm^2 ; TSA – 462 cm^2
2. CSA – 412 cm^2 ; TSA – 544 cm^2
3. CSA – 350 cm^2 ; TSA – 500 cm^2
4. CSA – 320 cm^2 ; TSA – 480 cm^2

Q.40)- A vendor bought a book marked at ₹850 at successive discounts of 20% and 10%, respectively. He spent ₹55 on transport and sold the book for ₹980. What will be his profit percentage (rounded off to 2 decimal places)?

1. 48.25% 2. 45.65% 3. 50.65% 4. 46.93%

Q.41)- A shopkeeper allows a discount of 15% on an article and still makes a profit of 20%. What does the shopkeeper pay for an article whose marked price is ₹7,200?

1. ₹5,100 2. ₹6,120 3. ₹5,120 4. ₹6,100

Q.42)- The least number which should be added to 1351 so that the sum is exactly divisible by 2,4,6 and 8 is:

1. 17 2. 11 3. 15 4. 13

Q.43)- In a ΔPQR and ΔABC , $\angle P = \angle A$ and $AC = PR$. Which of the following conditions is true for triangle PQR and ABC to be congruent?

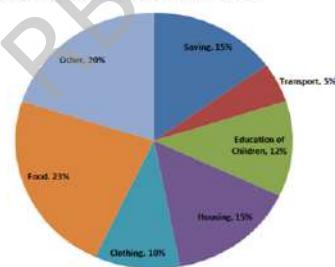
1. $\angle Q = \angle B$ by AAA 2. $AB = PQ$ by SSS 3. $AB = PQ$ by SAS 4. $BC = QR$ by ASS

Q.44)- What is the compound interest on a sum of ₹25,000 after three years at a rate of 12 percent per annum interest compounded yearly?

1. ₹9,824.00 2. ₹10,520.00 3. ₹10,123.20 4. ₹9,956.86

Study the given pie-chart and answer the question that follows.

The pie-chart shows the expenditure of a family on different items and their savings throughout the year 2021.



If the total income of the family was ₹1,00,000, how much money (in ₹) was spent on the education of the children?

Q.45)-

1. 12,000 2. 13,000 3. 13,500 4. 12,500

Q.46)- Two numbers are in the ratio of 4 : 3. The product of their HCF and LCM is 2700. The difference between the numbers is:

1. 30 2. 15 3. 25 4. 105

Q.47)- Aditya sold article X at a profit of 23% and article Y at a loss of 13%. He earned a profit of ₹180 in the entire transaction. If article X costs ₹90 less than article Y, then what is the price of article Y (in ₹)?

1. 2,020 2. 2,007 3. 2,050 4. 2,100

Q.48)- Find the area of a rhombus if the perimeter of the rhombus is 52 cm, and one of its diagonals is 10 cm long.

1. 164 cm² 2. 160 cm² 3. 144 cm² 4. 120 cm²

Q.49)- Find the third proportional to 16 and 20.

1. 26 2. 23 3. 24 4. 25

Q.50)- The speed of a boat in still water is 20 km/h, while the river is flowing at a speed of 8 km/h and the time taken to cover a certain distance upstream is 6 h more than the time taken to cover the same distance downstream. Find the distance.

1. 336 km 2. 126 km 3. 120 km 4. 125 km

Answer key

| | | | | | | | | | |
|------|---|------|---|------|---|------|---|------|---|
| Q.1 | 3 | Q.2 | 3 | Q.3 | 4 | Q.4 | 4 | Q.5 | 3 |
| Q.6 | 2 | Q.7 | 2 | Q.8 | 4 | Q.9 | 4 | Q.10 | 2 |
| Q.11 | 2 | Q.12 | 2 | Q.13 | 1 | Q.14 | 4 | Q.15 | 3 |
| Q.16 | 1 | Q.17 | 1 | Q.18 | 2 | Q.19 | 2 | Q.20 | 3 |
| Q.21 | 4 | Q.22 | 1 | Q.23 | 4 | Q.24 | 2 | Q.25 | 4 |
| Q.26 | 2 | Q.27 | 2 | Q.28 | 4 | Q.29 | 1 | Q.30 | 3 |
| Q.31 | 3 | Q.32 | 1 | Q.33 | 2 | Q.34 | 3 | Q.35 | 2 |
| Q.36 | 4 | Q.37 | 4 | Q.38 | 2 | Q.39 | 1 | Q.40 | 4 |
| Q.41 | 1 | Q.42 | 1 | Q.43 | 3 | Q.44 | 3 | Q.45 | 1 |
| Q.46 | 2 | Q.47 | 2 | Q.48 | 4 | Q.49 | 4 | Q.50 | 2 |



RBE- Revolution By Education



By: Shubham Jain
(Selected as GST Inspector)
Your life, Your hard work, Your success.



04/10/2023-> (9:00 AM - 11:00 AM)

Q.1)- The total surface area of a square-based right pyramid is 1536 m^2 , of which 37.5% is the area of the base of the pyramid. What is the volume (in m^3) of this pyramid?

1. 3048 2. 3072 3. 3144 4. 3108

Q.2)- If $\sin A + \sin^2 A = 1$, then the value of $\cos^4 A + \cos^6 A$ is:

1. $\cos A$ 2. $\sin A$ 3. 1 4. 0

Q.3)- The radius of a circle is 1.75 cm. What is the circumference of the circle? (Take $\pi = \frac{22}{7}$)

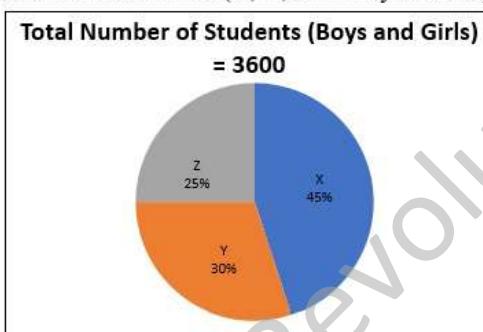
1. 5.5 cm 2. 11 cm 3. 9.63 cm 4. 22 cm

Q.4)- Let the HCF of m and n be 'a' and let n = ab, LCM of m and n is given by:

1. bm 2. am 3. ab 4. mn

Study the given pie-chart and answer the question that follows.

The pie-chart shows the number of students (boys and girls) studying in standard 10 of various schools (X, Y, Z in the year 2022).



What is the difference between the total number of students (boys and girls) in school Y and Z together and the total number of students (boys and girls) in school X and Y together?

Q.5)-

1. 720 2. 840 3. 780 4. 820

The radius of the base of a right circular cone is 5 cm. Its slant height is 13 cm.

Q.6)- What is its volume (in cm^3 , rounded off to 1 decimal place)? (Take $\pi = \frac{22}{7}$)

1. 328.6 2. 323.4 3. 314.3 4. 340.5

Q.7)- A sum of money was invested at 10% interest per year, compounded half-yearly, for 18 months. If the amount payable on maturity was ₹64,827, what was the sum invested?

1. ₹55,600 2. ₹56,000 3. ₹56,800 4. ₹56,500

Q.8)- Let C be a circle with centre O and radius 5 cm. Let PQ be a tangent to the circle and A be the point of tangency. Let B be a point on PQ such that the length of AB is 12 cm. If the line joining O and B intersects the circle at R, find the length of BR (in cm).

1. 2 2. 13 3. 6 4. 8

Q.9)- The value of $1\frac{2}{5} - \left[3\frac{3}{4} \div \left\{ 1\frac{1}{4} \div \frac{1}{2} \left(1\frac{1}{2} \times 3\frac{1}{3} \div 1\frac{1}{3} \right) \right\} \right]$ is:

1. 3 2. 0 3. 2 4. 1

Q.10)- When A alone does a piece of work, he takes 25 days more than the time taken by A and B to do the work together. On the other hand, B alone takes 16 days more than the time taken by A and B to do the work together. How many days will A and B, working together, take to do the work?

1. 24 2. 20 3. 23 4. 22

Q.11)- In what proportion should a grocer mix wheat at ₹12 per kg and ₹25 per kg so as to make a mixture of worth ₹20 per kg?

1. 8 : 3 2. 3 : 5 3. 5 : 8 4. 5 : 7

Q.12)- Find the mean proportional between 32 and 162.

1. 99 2. 65 3. 72 4. 97

Q.13)- Rakhi purchased a basket, a wallet and a belt. She got discounts of 5%, 8% and 10% on the basket, the wallet and the belt, respectively, on their respective marked prices of ₹80, ₹150 and ₹350. How much amount (in ₹) did she pay in total?

1. 529 2. 51 3. 580 4. 519

Q.14)- In ΔABC , $\angle B = 90^\circ$ and $AB : BC = 1 : 2$. The value of $\cos A + \tan C$ is:

1. $\frac{5+\sqrt{5}}{2\sqrt{5}}$ 2. $\frac{1+\sqrt{5}}{2\sqrt{5}}$ 3. $\frac{2\sqrt{5}}{2+\sqrt{5}}$ 4. $\frac{2+\sqrt{5}}{2\sqrt{5}}$

Q.15)- The product of two numbers is 20000. If their LCM is 800, then what is their HCF?

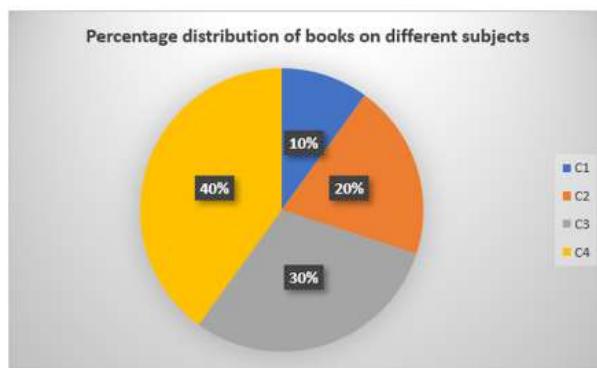
1. 25 2. 30 3. 35 4. 20

Q.16)- If $a + \frac{1}{a} = 3$, then the value of $a^4 + \frac{1}{a^4}$ is:

1. 48 2. 81 3. 27 4. 47

Study the given graph and answer the question that follows.

The given graph represents the percentage of books on different subjects that a person has in his library.



If the total number of books is 60, then what is the ratio of the number of books on subject C1 to the average number of books per subject?

Q.17)-

1. 3 : 7 2. 2 : 3 3. 3 : 5 4. 2 : 5

Q.18)- Find the value of $\frac{\cos 37^\circ}{\sin 53^\circ} - \cos 47^\circ \operatorname{cosec} 43^\circ$.

1. 0 2. -1 3. 2 4. 1

Q.19)- The volume of a sphere is given by 130977 cm^3 . Its surface area (in cm^2) is:

1. 16847 2. 12474 3. 17424 4. 14274

Q.20)- The speed of a boat in standing water is 6 km/h and the speed of the stream is 2.5 km/h. A man rows to a place at a distance of 59.5 kilometres and comes back to the starting point. The total time taken by him is:

1. 16 hours 2. 24 hours 3. 22 hours 4. 18 hours

Q.21)- The table below shows the number of students commuting to school by different modes of transport: Which mode of transport is used by maximum number of students?

| Modes of transport | School bus | Bicycle | Walking | Other vehicles |
|--------------------|------------|---------|---------|----------------|
| No. of boys | 80 | 280 | 130 | 200 |
| No. of girls | 140 | 190 | 90 | 250 |

1. Bicycle 2. Walking 3. Other vehicles 4. School bus

Q.22)- A boat covers a distance of 72 km downstream in 6 hours, while it takes 12 hours to cover the same distance upstream. What is the speed of the boat in still water?

1. 6 km/h 2. 9 km/h 3. 10 km/h 4. 8 km/h

Q.23)- Simplify: $5\frac{1}{3} - \left\{ 4\frac{1}{3} + \left(3\frac{1}{3} \div 2\frac{1}{3} - \frac{1}{3} \right) \right\}$

1. $\frac{2}{3}$ 2. $\frac{1}{3}$ 3. $-\frac{1}{3}$ 4. $-\frac{2}{3}$

Simplify $\frac{1 - \frac{3}{7} \div \frac{9}{49} \times \frac{3}{14}}{1 + \frac{3}{5} \div \frac{1}{25} \times \frac{1}{30}}$.

Q.24)-

1. $\frac{1}{7}$ 2. $\frac{1}{6}$ 3. $\frac{1}{3}$ 4. $\frac{1}{5}$

Q.25)- In an election between two candidates, 80% of the voters cast their votes, out of which 5% votes were declared invalid. A candidate got 9500 votes which were 80% of the valid votes. Find the total number of voters enrolled in that election.

1. 14780 2. 15100 3. 15625 4. 16100

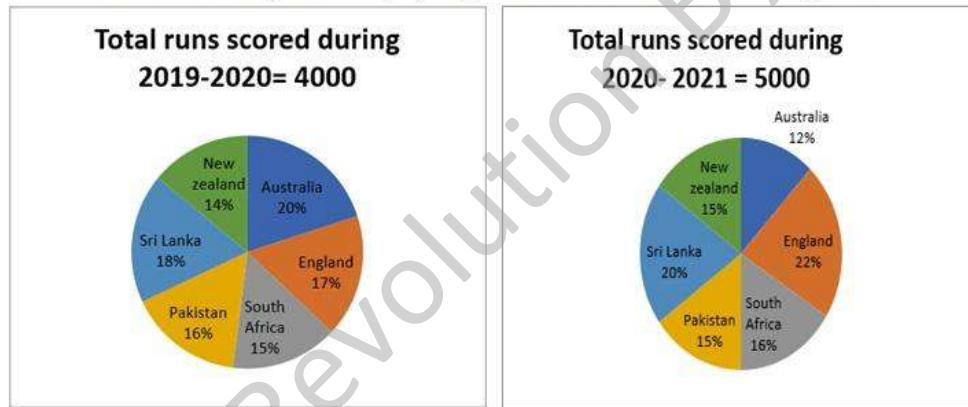
Q.26)- An inlet pipe can fill an empty tank in 3.6 hours, while an outlet pipe can drain a completely-filled tank in 6.3 hours. If both the pipes are opened simultaneously when the tank is empty, in how many hours will the tank get completely filled?

1. 9.0 2. 8.4 3. 8.1 4. 8.7

Q.27)- Avi sold a house to Bhargav at a gain of 10% and Bhargav sold it to Chetan at a gain of 20%. If Chetan paid ₹2,64,00,000 for it, then at what price must Avi have purchased it?

1. ₹2,00,00,000 2. ₹2,30,00,000 3. ₹2,50,00,000 4. ₹1,75,00,000

The pie chart 1 given below shows the runs scored by a player against 6 different countries during 2019-2020. Pie chart 2 shows the runs scored by the same player against the same 6 countries during 2020-2021.



Find the difference between the total runs scored against New Zealand and Pakistan during 2019-2020 and the total runs scored against Sri Lanka and Pakistan during 2020-2021.

Q.28)-

1. 500 2. 600 3. 650 4. 550

Q.29)- Find the total surface area of a sphere whose volume is $\frac{256}{3}\pi \text{ cm}^3$.

1. $48\pi \text{ cm}^2$ 2. $64\pi \text{ cm}^2$ 3. $38\pi \text{ cm}^2$ 4. $56\pi \text{ cm}^2$

Q.30)- If $k(\tan 45^\circ \sin 60^\circ) = \cos 60^\circ \cot 30^\circ$, then the value of k is:

1. 1 2. 2 3. $\frac{1}{\sqrt{3}}$ 4. $\sqrt{3}$

Q.31)- An inspector is 288 metres behind a thief. The inspector runs 42 metres and the thief runs 30 metres in a minute. In how much time will the inspector catch the thief?

1. 24 minutes 2. 19 minutes 3. 21 minutes 4. 20 minutes

Q.32)- Three boys, on an average, are 25 years old, and their age are in the ratio of 3 : 5 : 7. What is the age of youngest boy?

1. 24 years 2. 21 years 3. 12 years 4. 15 years

Q.33)- Two numbers are in the ratio 12:7. If their HCF is 25, find the numbers.

1. 225, 135 2. 300, 175 3. 300, 50 4. 175, 120

Q.34)- A dealer sells his goods at 10% loss on the cost price but uses 25% less weight. What is his profit percentage?

1. 35% 2. 20% 3. 25% 4. 15%

Q.35)- A and B undertake a project worth ₹36,000. A alone can do the work in 25 days. They worked together for 5 days. For the next five days, B worked alone. After that, A substituted B and completed the remaining work in 5 days. The share of A in the earnings is:

1. ₹14,400 2. ₹21,400 3. ₹14,600 4. ₹21,600

Q.36)- A shopkeeper has a sale of ₹5,445, ₹5,937, ₹5,865 and ₹6,562 for 4 consecutive days. If he gets an average sale of ₹6,050 for 5 days, then his sale on the fifth day is:

1. ₹6,131 2. ₹6,341 3. ₹6,441 4. ₹6,231

Q.37)- Study the given table and answer the question that follows.

The data given in the table is for the month of December 2022.

What is the difference between the number of male employees in company P and that in company R?

| Company | Total number of employees | Number of female employees |
|---------|---------------------------|----------------------------|
| P | 4560 | 2210 |
| Q | 4258 | 1650 |
| R | 3052 | 1280 |
| S | 4350 | 1920 |

1. 592 2. 578 3. 605 4. 580

The following table shows the mobile-addicted population of four different cities Hyderabad, Mumbai, Chennai, and Pune, and the ratio of males to females among them.

| City | Mobile-Addicted population | Male : Female |
|-----------|----------------------------|---------------|
| Hyderabad | 2,20,000 | 7 : 8 |
| Mumbai | 3,50,000 | 12 : 13 |
| Chennai | 2,00,000 | 11 : 9 |
| Pune | 1,50,000 | 9 : 11 |

Q.38)- Find the total number of addicted males in Chennai.

1. 1,10,000 2. 80,000 3. 1,00,000 4. 1,20,000

Q.39)- A company is manufacturing boxes of three types – plastic, wood and glass. The ratio of the numbers of plastic, wood and glass boxes is 2 : 3 : 5. The difference between the numbers of wood and glass boxes is 144. If the number of plastic boxes is increased by 25%, then what will be the number of plastic boxes now?

1. 144 2. 360 3. 216 4. 180

Q.40)- The fraction equivalent to $\frac{1}{5}\%$ is:

1. $\frac{1}{125}$ 2. $\frac{1}{200}$ 3. $\frac{1}{40}$ 4. $\frac{1}{500}$

Q.41)- After deducting a commission of 20%, a DVD set costs ₹9,080. Its marked price is:

1. ₹11,200 2. ₹11,350 3. ₹10,000 4. ₹10,100

Q.42)- Anandi bought a smart watch from an electronic store for Rs.4,400. Since she had less money, she paid Rs.2,000 for down payment and the shopkeeper offered her an alternative to pay Rs.2,440 after 1 month. Find the rate of interest being charged at simple interest by the shopkeeper in this instalment option?

1. 20% 2. 10% 3. 22% 4. 15%

Q.43)- PQR is a triangle. The bisectors of the internal angle $\angle Q$ and external angle $\angle R$ intersect at S. If $\angle QSR = 40^\circ$, then $\angle P$ is:

1. 40° 2. 60° 3. 80° 4. 30°

Q.44)- If $x^4 + y^4 = x^2y^2$, then the value of $x^6 + y^6$ is:

1. 2 2. 0 3. 1 4. 3

Q.45)- The given table shows the number of students from 4 schools during 2022-2023.

| Schools | Total no. of students | Boys | Girls |
|---------|-----------------------|------|-------|
| A | 2060 | 1339 | 721 |
| B | 1880 | 1034 | 846 |
| C | 2200 | 990 | 1210 |
| D | 1680 | 924 | 756 |

What is the percentage of girls in school B?

1. 65% 2. 45% 3. 60% 4. 55%

Q.46)- E, F, G, and H are four points lying on the circumference of a circle to make a cyclic quadrilateral. If $\angle FGH = 57^\circ$, then what will be the measure of the $\angle HEF$?

1. 33° 2. 123° 3. 93° 4. 143°

Q.47)- The square root of $(\frac{1}{4}) \times (\frac{1}{9}) \times (\frac{1}{25}) \times (\frac{1}{49}) \div (\frac{36}{121})$ is:

1. $\frac{11}{1260}$ 2. $\frac{1260}{11}$ 3. $\frac{11}{12.60}$ 4. $\frac{1}{1260}$

Q.48)- If the radius of a hemispherical balloon increases from 4 cm to 7 cm as air is pumped into it, find the ratio of the surface area of the new balloon to its original.

1. 16 : 21 2. 49 : 16 3. 20 : 49 4. 21 : 12

The sales of batteries (in lakhs) manufactured by a company over the years are shown in the given table.

| YEAR | TYPES OF BATTERIES | | | | | |
|------|--------------------|-----|------|------|------|-------|
| | 4AH | 7AH | 32AH | 35AH | 55AH | Total |
| 1992 | 75 | 144 | 114 | 102 | 108 | 543 |
| 1993 | 90 | 126 | 102 | 84 | 126 | 528 |
| 1994 | 96 | 114 | 75 | 105 | 135 | 525 |
| 1995 | 105 | 90 | 150 | 90 | 75 | 510 |
| 1996 | 90 | 75 | 135 | 75 | 90 | 465 |
| 1997 | 105 | 60 | 165 | 45 | 120 | 495 |
| 1998 | 115 | 85 | 160 | 100 | 145 | 605 |

Q.49)- Which type of battery had the highest total sales over the last seven years?

1. 32 AH 2. 35 AH 3. 4 AH 4. 55 AH

Q.50)- Study the given table and answer the question that follows.

The table shows the number of students studying in 6 different classes of 6 different schools.

Which class has the maximum number of students from all schools together?

| Schools | V | VI | VII | VIII | IX | X |
|---------|-----|-----|-----|------|-----|-----|
| P | 152 | 160 | 145 | 156 | 147 | 144 |
| Q | 148 | 166 | 150 | 155 | 157 | 143 |
| R | 161 | 152 | 140 | 145 | 143 | 165 |
| S | 159 | 142 | 149 | 140 | 142 | 168 |
| T | 147 | 144 | 158 | 163 | 154 | 150 |
| U | 150 | 160 | 162 | 160 | 160 | 140 |
| Total | 917 | 924 | 904 | 919 | 903 | 910 |

1. X 2. VII 3. VI 4. V

Answer key

| | | | | | | | | | |
|------|---|------|---|------|---|------|---|------|---|
| Q.1 | 2 | Q.2 | 2 | Q.3 | 2 | Q.4 | 1 | Q.5 | 1 |
| Q.6 | 3 | Q.7 | 2 | Q.8 | 4 | Q.9 | 4 | Q.10 | 2 |
| Q.11 | 3 | Q.12 | 3 | Q.13 | 1 | Q.14 | 4 | Q.15 | 1 |
| Q.16 | 4 | Q.17 | 4 | Q.18 | 1 | Q.19 | 2 | Q.20 | 2 |
| Q.21 | 1 | Q.22 | 2 | Q.23 | 4 | Q.24 | 3 | Q.25 | 3 |
| Q.26 | 2 | Q.27 | 1 | Q.28 | 4 | Q.29 | 2 | Q.30 | 1 |
| Q.31 | 1 | Q.32 | 4 | Q.33 | 2 | Q.34 | 2 | Q.35 | 1 |
| Q.36 | 3 | Q.37 | 2 | Q.38 | 1 | Q.39 | 4 | Q.40 | 4 |
| Q.41 | 2 | Q.42 | 1 | Q.43 | 3 | Q.44 | 2 | Q.45 | 2 |
| Q.46 | 2 | Q.47 | 1 | Q.48 | 2 | Q.49 | 1 | Q.50 | 3 |



RBE- Revolution By Education



By: Shubham Jain
(Selected as GST Inspector)
Your life, Your hard work, Your success.



04/10/2023-> (12:30 PM - 2:30 PM)

Q.1)- Let ABC, PQR be two congruent triangles such that $\angle A = \angle P = 90^\circ$. If BC = 17 cm, PR = 8 cm, find AB (in cm).

1. 9 2. 14 3. 12 4. 15

Q.2)- A person has three iron bars whose lengths are 20, 30 and 40 metres, respectively. He wants to cut pieces of the same length from each of the three bars. What is the least number of total pieces if he cuts without any wastage?

1. 11 2. 9 3. 10 4. 8

$$\frac{(3.254 \times 3.254 \times 3.254) - (0.746 \times 0.746 \times 0.746)}{(3.254 \times 3.254) + (0.746 \times 0.746) + (3.254 \times 0.746)}$$

Q.3)- Simplify the given expression.

1. 3.156 2. 2.146 3. 2.508 4. 4.508

Q.4)- A car, during its entire journey of 5 hours, travels the first 45 minutes at a certain speed, the next 75 minutes at a speed of 85 km/h, and the last 3 hours at a speed of 70 km/h. During its entire journey, the average speed of the car is found to be 73 km/h. What is the speed (in km/h) of the car during the first 45 minutes?

1. 62 2. 68 3. 65 4. 72

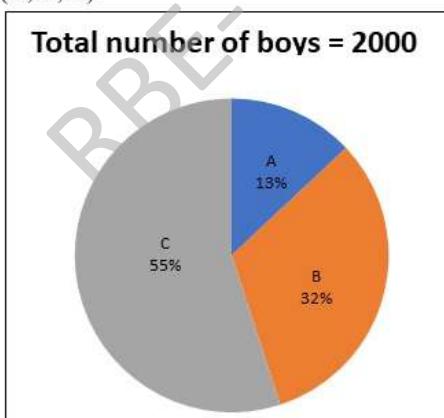
In a triangle ABC, if $\angle B = 90^\circ$, $\angle C = 45^\circ$ and AC = 4 cm, then the value of BC

Q.5)- is:

1. 4 cm 2. $4\sqrt{2}$ cm 3. $\sqrt{2}$ cm 4. $2\sqrt{2}$ cm

Study the given pie-chart and answer the question that follows.

The pie-chart shows the number of boys studying in play group of various schools (A, B, C).



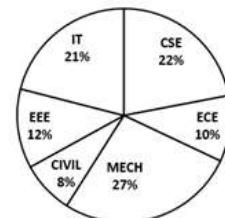
Q.6)- What is the average number of boys studying in schools A and C?

1. 560 2. 920 3. 740 4. 680

Q.7)- Study the pie-chart given below, and answer the question that follows.

Percentage-wise break up of students in terms of specialisation in BTech

TOTAL NUMBER OF STUDENTS = 6700



What is the total number of students having specialisation in CSE, ECE and CIVIL?

1. 2680 2. 2860 3. 2480 4. 2840

Q.8)- A train covers a distance of 540 km between two stations in 240 minutes. It travels at a speed of 90 km/h to another station in 5 hours. What is the average speed of the train (in km/h)?

1. 100 2. 112 3. 110 4. 120

Q.9)- The HCF of 3888 and 3969 is:

1. 73 2. 71 3. 81 4. 83

Find the value of $\sqrt{\frac{1 - \tan A}{1 + \tan A}}$

Q.10)-

1. $\sqrt{\frac{1 + \sin 2A}{\cos 2A}}$ 2. $\sqrt{\frac{1 + \sin A}{\cos A}}$ 3. $\sqrt{\frac{1 - \sin A}{\cos A}}$ 4. $\sqrt{\frac{1 - \sin 2A}{\cos 2A}}$

Q.11)- If a shopkeeper allows a discount of 10% to his customers and still gains 30%, then the marked price of an article which costs ₹450 is:

1. ₹700 2. ₹650 3. ₹750 4. ₹500

Q.12)- Travelling a distance of 1000 km, a train slowed down due to repairs of the tracks. Its average speed for the trip reduced by 75 km/h and the time of travel increased by 3 hours. The original duration of the travel is:

1. 6.5 hours 2. 6 hours 3. 5.5 hours 4. 5 hours

Q.13)- The upstream speed of a boat is 8 km/h and the downstream is 15 km/h. What is the speed of the boat in still water and the speed of the stream (in km/h), respectively?

1. 3.5 and 11.5 2. 11 and 3 3. 11.5 and 3.5 4. 3 and 11

Q.14)- Find the HCF of 240, 280 and 560.

1. 30 2. 20 3. 40 4. 10

Q.15)- A number is first decreased by 28% and then increased by 28%. The number so obtained is 784 less than the original number. Find the value of the original number.

1. 1500 2. 10000 3. 15000 4. 1000

Q.16)- The LCM of two numbers is 660 and their HCF is 5. If one of the numbers is 55, find the other.

1. 275 2. 60 3. 12 4. 110

Q.17)- What is the difference between a single discount of 35% on ₹700 and two successive discounts of 18% and 12% on the same amount (correct to two places of decimals)?

1. ₹49.80 2. ₹52.10 3. ₹50.12 4. ₹51.20

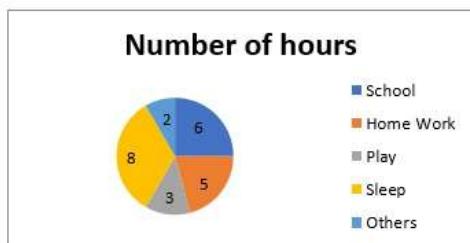
Q.18)- $7 \sin^2 A + 3 \cos^2 A = 4$, then find $\cot A$:

1. $\sqrt{3}$ 2. $\frac{1}{\sqrt{3}}$ 3. $\frac{1}{\sqrt{2}}$ 4. $\sqrt{2}$

Q.19)- $2(\sin 1^\circ \times \sec 89^\circ) + 3(\cos 11^\circ \times \operatorname{cosec} 79^\circ) + 5(\tan 21^\circ \times \tan 69^\circ) = ?$

1. 10 2. 11 3. 12 4. 20

The number of hours spent by a student on different activities as shown in the following pie chart:



The central angle corresponding to the sleeping time is what percentage of the whole central angle?

Q.20)-

1. 55% 2. 50% 3. 66.66% 4. 33.33%

The heights of two cones are in the ratio 7:5 and their diameters are in the ratio 10:21. What is the ratio of their volumes? (Where $\pi = \frac{22}{7}$)

Q.21)-

1. 20:63 2. 14:19 3. 17:21 4. 26:47

Q.22)- The following table shows the number of mobile phones sold by four different stores in four different years.

Find the difference between the number of mobile phones sold by store Q in 2013 and store S in 2015.

| Stores | 2012 | 2013 | 2014 | 2015 |
|--------|------|------|------|------|
| P | 178 | 183 | 205 | 225 |
| Q | 133 | 198 | 220 | 235 |
| R | 284 | 250 | 220 | 198 |
| S | 225 | 243 | 199 | 205 |

1. 8 2. 7 3. 12 4. 10

Q.23)- The price of a land passing through three hands rises on the whole by 65%. The first and second sellers earned 20% and 25% profit, respectively. Find the profit percentage earned by the third seller.

1. 15% 2. 10% 3. 25% 4. 20%

Q.24)- Find the area of a triangle whose length of two sides are 4 cm and 5 cm and the angle between them is 45°.

1. $4\sqrt{2} \text{ cm}^2$ 2. $7\sqrt{2} \text{ cm}^2$ 3. $5\sqrt{2} \text{ cm}^2$ 4. $6\sqrt{2} \text{ cm}^2$

Q.25)- The value of $\frac{(157 \times 157) + (157 \times 133) + (133 \times 133)}{(157 \times 157 \times 157) - (133 \times 133 \times 133)}$ is:

1. 24 2. $\frac{1}{24}$ 3. 290 4. $\frac{1}{290}$

Q.26)- The price of almonds is increased by 10%. By what percentage should the consumption be decreased so that the expenditure remains the same?

1. $10\frac{3}{11}\%$ 2. $8\frac{1}{11}\%$ 3. $9\frac{1}{11}\%$ 4. $5\frac{3}{11}\%$

Q.27)- Two trains of lengths 200 m and 250 m are running on parallel rail tracks at speeds of 68 km/h and 50 km/h, respectively. In how much time (in seconds) will they cross each other if they are running in the same direction?

1. 85 2. 75 3. 80 4. 90

Q.28)- The table below shows the production of jute fabric (in lakh metre) by two Companies P and Q during 2001 to 2005.

In which year/years, did Company Q produce more fabric than Company P?

| Year | Company P | Company Q |
|------|-----------|-----------|
| 2001 | 100 | 96 |
| 2002 | 120 | 130 |
| 2003 | 108 | 100 |
| 2004 | 190 | 180 |
| 2005 | 240 | 275 |

1. 2005 2. 2002, 2005 3. 2002 4. 2003, 2005

Q.29)- Akshita and Raina are typing a book, but have only one laptop to work upon. They decided that they will work on alternate basis such that Akshita works for the first day, Raina works for the second day, Akshita for the third day and so on. Akshita alone can finish the typing work in 16 days, while Raina will take 24 days if she works alone on the entire book. How many days will they take to finish the typing work if they work on alternate basis?

1. 19 2. 15 3. 18 4. 17

Q.30)- The time taken to travel the same distance by three cars is in the ratio of 12:15:10. What is the ratio of the speeds of the three cars?

1. 4 : 6 : 5 2. 4 : 5 : 6 3. 5 : 4 : 6 4. 5 : 6 : 4

Q.31)- Which is the smallest natural number that is exactly divisible by each of 96, 108 and 144?

1. 1296 2. 2592 3. 1728 4. 864

Q.32)- Tom can do a piece of work in 7 days, whereas Jay can do the same work in 14 days. How long will they take to finish the work if both work together?

1. $2\frac{2}{3}$ days 2. $7\frac{2}{3}$ days 3. $4\frac{2}{3}$ days 4. $5\frac{2}{3}$ days

Q.33)- The fourth proportional to 0.3, 0.8 and 0.108 is:

1. 0.482 2. 0.288 3. 0.144 4. 0.124

Simplify the following.

Q.34)- $19 \div 5$ of $(27 - \overline{15} - 21) + 37$

1. $\frac{37}{165}$ 2. $\frac{6142}{165}$ 3. $\frac{19}{165}$ 4. $\frac{6124}{165}$

Q.35)- In a ΔPQR , $\angle P : \angle Q : \angle R = 3 : 4 : 8$. The shortest side and the longest side of the triangle, respectively, are:

1. PQ and QR 2. PQ and PR 3. QR and PQ 4. QR and PR

Q.36)- If the diameter of a sphere is reduced to its half, then the volume would be:

1. increased by $\frac{1}{8}$ of the former volume 2. reduced by $\frac{1}{4}$ of the former volume 3. reduced by $\frac{1}{8}$ of the former volume 4.

increased by $\frac{1}{4}$ of the former volume

The following table shows the percentage population of four towns below poverty line and the proportion of males and females:

| Town | Percentage of population below poverty line | Below poverty line | Above poverty line |
|------|---|--------------------|--------------------|
| | | Male : Female | Male : Female |
| A | 10 | 1 : 3 | 3 : 2 |
| B | 15 | 3 : 4 | 1 : 2 |
| C | 20 | 2 : 3 | 5 : 3 |
| D | 25 | 4 : 5 | 5 : 4 |

Q.37)- If the total population of town C is 8000 then what is the number of females above the poverty line in state C?

1. 2000 2. 2400 3. 2200 4. 2600

Study the given table and answer the question that follows.

The table shows the number of people who responded to a survey about their favourite style of music.

| Age | 18-20 | 21-30 | 31+ |
|-----------|-------|-------|-----|
| Classical | 8 | 5 | 15 |
| Pop | 5 | 11 | 10 |
| Hip-Hop | 6 | 9 | 8 |
| Rock | 9 | 7 | 13 |
| Total | 28 | 32 | 46 |

What percentage of the total sample indicated that Rock is their favourite style of music (rounded off to 2 decimal places)?

1. 18.25% 2. 22.35% 3. 27.36% 4. 29.65%

Q.39)- The LCM and HCF of two numbers are 1105 and 5. If the LCM is 17 times the first number, then find the two numbers.

1. 65 and 85 2. 65 and 75 3. 60 and 80 4. 55 and 85

Q.40)- The area of a rectangular field is 480 m^2 . If the length is 20% more than the breadth, then the length of the rectangular field is:

1. 30 m 2. 27 m 3. 20 m 4. 24 m

Q.41)- Peter invested a certain sum of money in a scheme paying 10% simple interest per annum, while Rachel invested half of the sum that Peter invested in a scheme paying 10% interest per annum compounded annually. Also, while Peter invested for 2 years, Rachel invested for 3 years. If the difference in the interest earned by Peter and Rachel was ₹897, what was the sum that Rachel had invested?

1. ₹13,100 2. ₹12,960 3. ₹13,000 4. ₹12,900

Q.42)- The price of a stock increased by 30% in the first year and decreased by 20% in the second year. If an investor bought 100 shares of the stock for ₹1,000, then what is the final value of the investment after 2 years?

1. ₹960 2. ₹1,020 3. ₹1,400 4. ₹1,040

Q.43)- Some medicine in liquid form is prepared in a hemispherical container of diameter 36 cm. When the container is full of medicine, the medicine is transferred to small cylindrical bottles of diameter 6 cm and height 6 cm. How many bottles are required to empty the container?

1. 76 2. 72 3. 75 4. 70

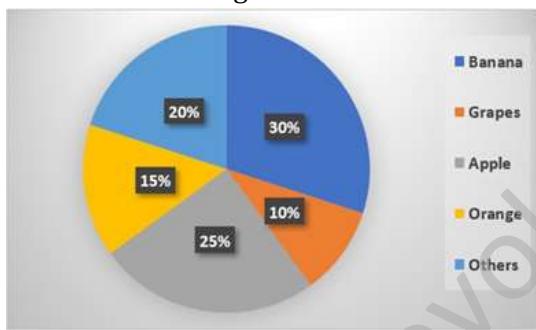
Q.44)- A vendor marked the selling price of a table at ₹5,670 after adding 35% profit to its cost price. Since the sale was very low at this price level, he decided to sell the table with 12% profit. Find the new selling price (in ₹).

1. 4,750 2. 4,608 3. 4,810 4. 4,704

Q.45)- Study the given pie-chart and answer the question that follows.

The pie-chart shows the sale of different fruits in a shop in a day.

If a total of 1200 kg of fruits were sold in a day, calculate the amount of bananas sold (in kg).



1. 360 2. 260 3. 330 4. 290

Q.46)- If $\sec A - \tan A = p$, then find the value of $\sec^2 A$.

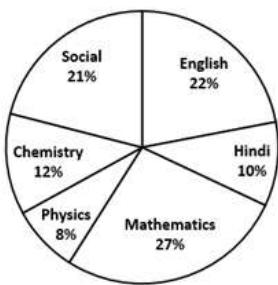
1. $\frac{p^2 - 1}{p^2 + 1}$ 2. $\frac{p^2 + 1}{2p}$ 3. $\frac{p^2 + 1}{p}$ 4. $\frac{p^2 + 1}{p^2 - 1}$

Q.47)- In a circle centred at O, PQ is a tangent at P. Furthermore, AB is the chord of the circle and is extended to Q. If PQ = 12 cm and QB = 8 cm, then the length of AB is equal to:

1. 8 cm 2. 4 cm 3. 10 cm 4. 20 cm

Q.48)- The following pie chart shows the number of students who failed in different subjects in an examination. Examine the chart and answer the following question. The total number of students who have failed is 350.

The number of students failed in mathematics is less than the number of students failed in all other subjects by:



1. 190 2. 256 3. 95 4. 161

Q.49)- Ramesh borrowed ₹15,000 at a certain rate of simple interest from a bank. He repaid (the principal but not interest) ₹6,000 after 5 years, and after 5 more years he paid ₹18,600 and settled his account. Find the rate of simple interest per annum.

1. 8% 2. 10% 3. 12% 4. 6%

Q.50)- In an office, 75 employees can finish a project in 60 days. After few days, 15 employees left the job and the project was completed in 65 days. After how many days did the 15 employees leave?

1. 30 2. 45 3. 50 4. 40

Answer key

| | | | | | | | | | |
|------|---|------|---|------|---|------|---|------|---|
| Q.1 | 4 | Q.2 | 2 | Q.3 | 3 | Q.4 | 3 | Q.5 | 4 |
| Q.6 | 4 | Q.7 | 1 | Q.8 | 3 | Q.9 | 3 | Q.10 | 4 |
| Q.11 | 2 | Q.12 | 4 | Q.13 | 3 | Q.14 | 3 | Q.15 | 2 |
| Q.16 | 2 | Q.17 | 3 | Q.18 | 1 | Q.19 | 1 | Q.20 | 4 |
| Q.21 | 1 | Q.22 | 2 | Q.23 | 2 | Q.24 | 3 | Q.25 | 2 |
| Q.26 | 3 | Q.27 | 4 | Q.28 | 2 | Q.29 | 1 | Q.30 | 3 |
| Q.31 | 4 | Q.32 | 3 | Q.33 | 2 | Q.34 | 4 | Q.35 | 3 |
| Q.36 | 3 | Q.37 | 2 | Q.38 | 3 | Q.39 | 1 | Q.40 | 4 |
| Q.41 | 3 | Q.42 | 4 | Q.43 | 2 | Q.44 | 4 | Q.45 | 1 |
| Q.46 | 2 | Q.47 | 3 | Q.48 | 4 | Q.49 | 1 | Q.50 | 4 |



RBE- Revolution By Education



By: Shubham Jain
(Selected as GST Inspector)
Your life, Your hard work, Your success.



04/10/2023-> (4:00 PM - 6:00 PM)

Q.1)- If $1\frac{1}{3} \div \frac{2}{5} \times \frac{x}{5} = 1\frac{1}{4} \times \frac{2}{3} \div \frac{1}{6}$, then the value of x is:

- 1. 5.5
- 2. 15
- 3. 7.5
- 4. 7.0

Q.2)- The value of $\sqrt{\frac{1 + \sin A}{1 - \sin A}}$ is:

- 1. $\sec A - \tan^2 A$
- 2. $\cosec A + \cot^2 A$
- 3. $\sec A + \tan^2 A$
- 4. $\cosec A - \cot^2 A$

Q.3)- What is the smallest perfect square number which is completely divisible by 4, 6, 9, 12 and 15?

- 1. 841
- 2. 900
- 3. 784
- 4. 961

Q.4)- The least common multiple of 12, 18 and 27 is :

- 1. 54
- 2. 216
- 3. 108
- 4. 27

Q.5)- If the volume of a sphere is 38808 cm^3 , then its surface area is:

- 1. 5574 cm^2
- 2. 5554 cm^2
- 3. 5564 cm^2
- 4. 5544 cm^2

Q.6)- The average weight of 49 students is 53 kg. When a new student is admitted to the class, the average decreases by 500 g. Find the weight of the new student.

- 1. 38 kg
- 2. 18 kg
- 3. 48 kg
- 4. 28 kg

Q.7)- The cost price of pulses is 12% less than the selling price. Using a faulty weighing machine, shopkeeper is able to earn 25% profit. How much per cent of the faulty machine shows more weight as compared to the actual weight (Rounded off to the nearest integer)?

- 1. 13%
- 2. 14%
- 3. 15%
- 4. 10%

Q.8)- Which of the following numbers leaves the remainder equal to the highest common factor of 6, 8 and 9, when divided by 6, 8 and 9?

- 1. 506
- 2. 575
- 3. 433
- 4. 291

Q.9)- If $\cosec A + \cot A = 3$, $0^\circ \leq A \leq 90^\circ$, then find the value of $\cos^2 A$.

- 1. $\frac{3}{4}$
- 2. $\frac{4}{5}$
- 3. $\frac{2}{5}$
- 4. $\frac{3}{5}$

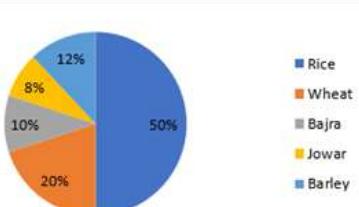
Q.10)- The monthly salary of a person is ₹50,000. He spends 40% of his salary on household expenses, 25% on rent, and 15% on transportation, and saves the remaining amount. What is his yearly savings?

- 1. ₹1,20,000
- 2. ₹1,00,000
- 3. ₹1,10,000
- 4. ₹90,000

Q.11)- A sum of money amounts to ₹1,200 in 2 years and becomes ₹1,260 in 3 years at compound interest, when interest is compounded annually. What is the rate of compound interest per annum?

1. 6% 2. 4% 3. 5% 4. 3%

Q.12)- The given pie chart shows the distribution of land under various food crops. The expenditure invested on these food crops is ₹25,000 per annum. Study the pie chart carefully and answer the question that follows. The expenditure invested in Rice and Barley is what percentage (correct to 2 decimal places) of the



expenditure invested in Wheat and Bajra?

1. 206.66% 2. 206.55% 3. 260.55% 4. 260.66%

Q.13)- Find the mean proportion of x^3y and xy^3 .

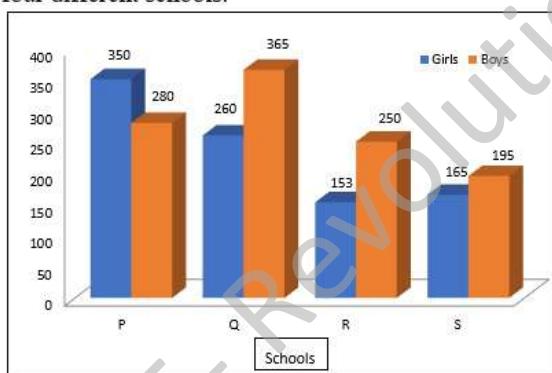
1. x^3y^3 2. x^2y^2 3. xy 4. x^4y^4

Q.14)- On an item, there is an 18% discount on the marked price of ₹26,000. After giving an additional season's discount, the item is sold at ₹16,000. How much was the season's discount correct upto two places of decimal?

1. 22.45% 2. 24.65% 3. 24.95% 4. 35.25%

Study the given graph and answer the question that follows.

The graph shows data regarding number of boys and girls studying in class 5 in four different schools.



What is the difference between total number of boys studying in school P and Q together and the total number of girls in the same schools together?

Q.15)-

1. 40 2. 38 3. 35 4. 45

Study the given table and answer the question that follows.

The table shows the percentage population of four states below poverty line and proportion of male to female.

| State | Percentage of population below poverty line | Proportion of male to female | |
|-------|---|------------------------------|--------------------|
| | | Below poverty line | Above poverty line |
| | | Male : Female | Male : Female |
| P | 28 | 3 : 2 | 7 : 3 |
| Q | 15 | 4 : 7 | 6 : 5 |
| R | 24 | 5 : 3 | 3 : 3 |
| S | 13 | 2 : 5 | 1 : 3 |

If the total population of state R is 26,000, then what is the number of females above poverty line in state R?

Q.16)-

1. 9,560 2. 9,880 3. 9,780 4. 9,950

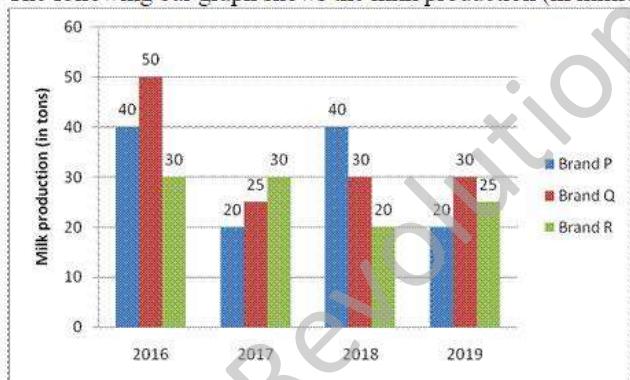
Q.17)- The average weight of A, B and C is 77 kg. If the average weight of A and B is 68 kg and that of B and C is 83 kg, then the weight (in kg) of B is:

1. 67 2. 71 3. 73 4. 74

Q.18)- A goods train 350 m long passes through a tunnel of 1250m in 80 seconds. What is the speed of the train?

1. 64 km/h 2. 72 km/h 3. 56 km/h 4. 78 km/h

The following bar graph shows the milk production (in million tons) details for 4 years for three brands (P, Q, R):



Q.19)- What was the average production of milk (in million tons) per year over the period of 4 years?

1. 5.0 2. 9.0 3. 3.0 4. 7.0

Q.20)- Determine the LCM of two numbers if their HCF is 12 and their ratio is 13 : 15.

1. 1890 2. 2450 3. 1780 4. 2340

The monthly budget of an average household is given in the following table.

| Category | Food | Clothing | Rent | Savings |
|----------|------|----------|------|---------|
| Amount | 8000 | 2000 | 6000 | 4000 |

Q.21)- The percentage of the monthly budget spent on clothing is:

1. 12% 2. 10% 3. 4% 4. 8%

Q.22)- Ramesh gives fifteen per cent additional discount along with a discount of 25% on the marked price of a sofa set. If the selling price of the sofa set is ₹12,750, then find the marked price of the sofa set.

1. ₹23,000 2. ₹24,000 3. ₹20,000 4. ₹22,000

Q.23)- In a triangle LMN, OP is a line segment drawn parallel to the side MN. OP intersects the sides LM and LN at O and P, respectively. If LM = 15 cm, OM = 4 cm, and PN = 5 cm, then what is the length (in cm) of the side LN?

1. 20.25 2. 18.75 3. 22.75 4. 16.25

Q.24)- In an election between two candidates, 30% of the electorate did not cast their votes. 20% of the votes polled were found invalid. The winning candidate got 64% of the valid votes and won by a majority of 3136 votes. Find the number of voters enrolled in the voter list.

1. 25000 2. 24000 3. 20000 4. 30000

In a megastore, the following data reveals the units purchased during the years.

What is the percentage growth in total units purchased (of all the three products) from 2015 to 2020?

| Year | Tea | Coffee | Cold drink |
|------|-----|--------|------------|
| 2015 | 650 | 450 | 1008 |
| 2016 | 730 | 402 | 1092 |
| 2017 | 710 | 354 | 770 |
| 2018 | 570 | 438 | 812 |
| 2019 | 820 | 390 | 1043 |
| 2020 | 830 | 501 | 1330 |

Q.25)-

1. 26.23 percent 2. 25.76 percent 3. 22.75 percent 4. 21.68 percent

Q.26)- Study the given table and answer the question that follows.

The table shows the number of employees in five different organisations A, B, C, D and E in different departments.

Which department has a minimum number of employees in each organisation?

| Dept ↓ Org → | A | B | C | D | E |
|-----------------|------|------|------|------|------|
| HR | 1050 | 1015 | 976 | 888 | 1004 |
| Finance | 1017 | 960 | 786 | 1025 | 963 |
| Marketing | 1382 | 1384 | 1275 | 1300 | 1290 |
| Production | 1542 | 1545 | 4550 | 1570 | 1580 |
| Accounts | 786 | 745 | 801 | 800 | 735 |
| Legal | 48 | 54 | 36 | 30 | 53 |
| Total | 5825 | 5703 | 5424 | 5613 | 5625 |

1. Production 2. Marketing 3. Legal 4. Accounts

Q.27)- A vehicle is going at one-fourth of its usual speed and it takes an extra 45 minutes to reach its destination. Its usual time to cover the same distance is:

1. 30 minutes 2. 20 minutes 3. 10 minutes 4. 15 minutes

Q.28)- Sanjay and Rohan can complete a work in 8 days and 12 days, respectively. Starting with Sanjay, they work on alternate days. In how many days will the work be completed?

1. $8\frac{1}{2}$ 2. $9\frac{2}{3}$ 3. $9\frac{1}{2}$ 4. $9\frac{1}{3}$

Q.29)- If perimeter of the circle is 13.2 cm, then the radius of the circle is _____. (Take $\pi = \frac{22}{7}$)

1. 3.3 cm 2. 6.6 cm 3. 2.1 cm 4. 4.2 cm

Q.30)- The area of a rhombus having one side measuring 17 cm and one diagonal measuring 16 cm is:

1. 180 cm^2 2. 280 cm^2 3. 210 cm^2 4. 240 cm^2

Q.31)- AB is a chord of a circle having radius 1.7 cm. If the distance of this chord AB from the centre of the circle is 0.8 cm, then what is the length (in cm) of the chord AB?

1. 2 2. 1 3. 4 4. 3

Q.32)- Find the least value of $16\cosec^2\theta + 25\sin^2\theta$.

1. 4.2 2. 4.0 3. 3.8 4. 3.5

Q.33)- The diameter of a hemisphere is equal to the diagonal of a rectangle of length 4 cm and breadth 3 cm. Find the total surface area (in cm^2) of the hemisphere.

1. $\frac{25\pi}{4}$ 2. 25π 3. $\frac{50\pi}{4}$ 4. $\frac{75\pi}{4}$

Q.34)- By selling 42 m of cloth, Vijay gains the selling price of 7 m of cloth. Find the profit percentage.

1. 30% 2. 25% 3. 15% 4. 20%

Q.35)- Two pipes can fill a cistern in 12 hours and 16 hours, respectively. The pipes are opened simultaneously and it is found that due to leakage at the bottom, it takes 90 minutes more to fill the cistern. How much time will the leakage take to empty the completely filled tank?

1. $36\frac{29}{49}\text{ h}$ 2. $37\frac{15}{49}\text{ h}$ 3. $38\frac{10}{49}\text{ h}$ 4. $39\frac{13}{49}\text{ h}$

Q.36)- If $\cos A = \frac{1}{11}$, then find the value of $\cot A$.

1. $\frac{11}{2\sqrt{30}}$ 2. $\frac{2\sqrt{30}}{11}$ 3. $2\sqrt{30}$ 4. $\frac{1}{2\sqrt{30}}$

Q.37)- In an election between two candidates, the difference between the candidates who won and lost was 2,500 votes. The candidate who won got 75% of the votes, and there were no invalid votes. The total number of votes polled of the losing candidate was:

1. 1875 2. 5000 3. 1250 4. 3750

Jimmy has to cover a distance of 88 km in 16 hours. If she covers half of the journey in $\frac{3}{4}$ time, then what

Q.38)- should be her speed to cover the remaining distance in the time left?

1. 11 km/h 2. 12 km/h 3. 13 km/h 4. 10 km/h

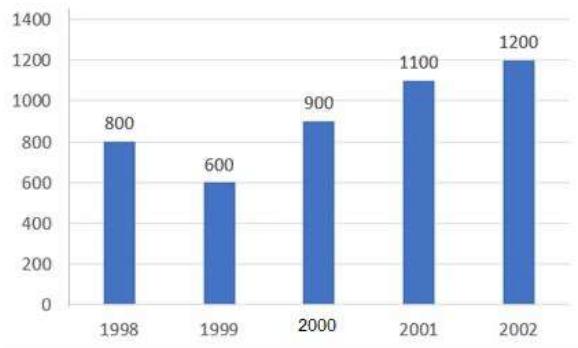
Q.39)- If the base radius and the height of a right circular cone are increased by 10%, then the percentage increase in the volume is:

1. 20.2% 2. 30.2% 3. 33.1% 4. 22.1%

Q.40)- Simplify the given expression. $(1+x)^3 + (1-x)^3 + (-2)^3$

1. -3(1-x²) 2. -6(1-x²) 3. 6(1-x²) 4. 3(1-x²)

Study the given bar-graph and answer the question that follows.
The bar-graph displays the number of bicycles produced at a factory from 1998 to 2002.



Q.41)- What was the average number of bicycles produced at the factory per year from 1998-2002?

1. 940 2. 880 3. 960 4. 920

Q.42)- A cylindrical metallic rod of diameter 2 cm and length 45 cm is melted and converted into wire of uniform thickness and length 5 m. The diameter of the wire is:

1. 2 mm 2. 5 mm 3. 6 mm 4. 3 mm

Q.43)- If the HCF of 45 and 55 is expressible in the form of $55 \times 5 + 45m$, then what is the value of m?

1. -6 2. 5 3. -5 4. 6

Q.44)- In a ΔPQR , $\angle P=90^\circ$, $\angle R=47^\circ$ and $PS \perp QR$. Find the value of $\angle QPS$.

1. 47° 2. 45° 3. 40° 4. 43°

The table below shows the number of trees planted by the government in 4 different years.

| Year | Neem | Oak | Birch |
|------|------|------|-------|
| 2019 | 2000 | 3000 | 4000 |
| 2020 | 3000 | 4000 | 5000 |
| 2021 | 5000 | 6000 | 7000 |
| 2022 | 7000 | 8000 | 9000 |

Find the ratio between the number of neem trees planted in the year 2021 and the number of birch trees planted in the

Q.45)- year 2022.

1. 3:7 2. 3:8 3. 5:8 4. 5:9

Q.46)- The value of $\frac{a^2 - (b - c)^2}{(a + c)^2 - b^2} + \frac{b^2 - (a - c)^2}{(a + b)^2 - c^2} + \frac{c^2 - (a - b)^2}{(b + c)^2 - a^2}$ is:

1. 1 2. 3 3. 2 4. -1

Q.47)- Find the least number which when divided by 4, 9, 12 and 15, leaves the remainder 3 in each case.

1. 180 2. 183 3. 360 4. 193

Q.48)- 36 equally efficient workers can paint 25 identical walls in 48 days. In how many days can 45 such workers paint 60 such walls?

1. 92.16 2. 92.36 3. 91.16 4. 91.96

Q.49)- Two mixtures A and B have the following compositions:

Mixture A has copper and tin in a ratio of 1:2

Mixture B has copper and tin in a ratio of 1:3

If equal quantities of mixtures A and B are used for producing mixture C, then find the ratio of copper and tin in mixture C.

1. 1:5 2. 2:5 3. 7:12 4. 7:17

Q.50)- Kanchan lent ₹10,000 for 2 years and ₹5,000 for 4 years at the same rate of simple interest. If the total interest received by Kanchan is ₹2,000, then what was the rate of interest?

1. 2% 2. 3% 3. 5% 4. 4%

Answer key

| | | | | | | | | | |
|------|---|------|---|------|---|------|---|------|---|
| Q.1 | 3 | Q.2 | 3 | Q.3 | 2 | Q.4 | 3 | Q.5 | 4 |
| Q.6 | 4 | Q.7 | 4 | Q.8 | 3 | Q.9 | 2 | Q.10 | 1 |
| Q.11 | 3 | Q.12 | 1 | Q.13 | 2 | Q.14 | 3 | Q.15 | 3 |
| Q.16 | 2 | Q.17 | 2 | Q.18 | 2 | Q.19 | 2 | Q.20 | 4 |
| Q.21 | 2 | Q.22 | 3 | Q.23 | 2 | Q.24 | 3 | Q.25 | 1 |
| Q.26 | 3 | Q.27 | 4 | Q.28 | 3 | Q.29 | 3 | Q.30 | 4 |
| Q.31 | 4 | Q.32 | 2 | Q.33 | 4 | Q.34 | 4 | Q.35 | 3 |
| Q.36 | 4 | Q.37 | 3 | Q.38 | 1 | Q.39 | 3 | Q.40 | 2 |
| Q.41 | 4 | Q.42 | 3 | Q.43 | 1 | Q.44 | 1 | Q.45 | 4 |
| Q.46 | 1 | Q.47 | 2 | Q.48 | 1 | Q.49 | 4 | Q.50 | 3 |



RBE- Revolution By Education



By: Shubham Jain
(Selected as GST Inspector)
Your life, Your hard work, Your success.



05/10/2023-> (9:00 AM - 11:00 AM)

Q.1)- Nikunj goes 4 kilometres against the current of a stream in 1 hour, and 2 kilometres along the current in 15 minutes. How long will it take him to go 7 kilometres in stationary water?

1. 1 hour 15 minutes 2. 1 hour 10 minutes 3. 1 hour 20 minutes 4. 1 hour 5 minutes

Q.2)- At 7: 30 P.M. the owner of a Cycle noticed that a thief is taking away his cycle from his home and is cycling in a particular direction at an estimated speed of 10 km per hour. He informed the police about the theft and the policeman started from the same point, half an hour later than the time of the theft but with a speed of 12 km per hour. At what time will Policeman catch the thief?

1. 9: 30 P.M. 2. 10:00 P.M. 3. 10:30 P.M. 4. 10:45 P.M.

Q.3)- A shopkeeper increases the cost price of an item by 50% and offers a discount of 40% on this marked price. What is his loss percentage?

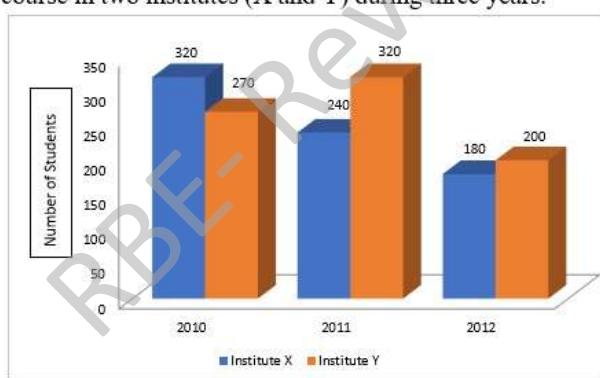
1. 10% 2. 5% 3. 15% 4. 20%

Q.4)- A and B complete a work in 24 and 30 days, respectively, working 10 hours per day. The work is to be done in two shifts. The morning shift is for 6 hours and the evening shift is for 4 hours. On the first day, A works in the morning and B works in the evening, and they interchange their shifts every day. On which day did the work get completed?

1. 27th day 2. 30th day 3. 24th day 4. 21st day

Study the given graph and answer the question that follows.

The graph shows data related to number of students enrolled for a vocational course in two institutes (X and Y) during three years.



Q.5)- What is the difference between the average number of students enrolled in institute X in 2010 and 2011 and that in institute Y in 2011 and 2012?

1. 22 2. 15 3. 20 4. 18

Q.6)- The following table shows the income of a company in a year from various sectors:

What is the difference (in lakh ₹) between the income from the maximum earning sector and the minimum

| Sectors | Finance | Communication | Production | Sales | Transportation |
|--------------------|---------|---------------|------------|-------|----------------|
| Amount (in lakh ₹) | 85 | 60 | 67 | 115 | 75 |

1. 40 2. 48 3. 30 4. 55

Q.7)- Two trains Mumbai Rajdhani and Kisan Express of lengths 850 m and 700 m are 1050 m apart, and are running on parallel tracks towards each other. Mumbai Rajdhani is running at 62 km/h and Kisan Express is running at 55 km/h. In how much time (in sec) will the trains cross each other?

1. 75 2. 80 3. 45 4. 70

Q.8)- The mean proportional between 0.03 and 0.0003 is:

1. 0.0003 2. 0.003 3. 0.0013 4. 0.033

Q.9)- What annual instalment (in ₹) will discharge a debt of ₹9,429 due in three years at 12.25% simple interest per annum? [Note: Instalments will be paid at the end of Year 1, Year 2 and Year 3.]

1. 2700 2. 2800 3. 2760 4. 2,840

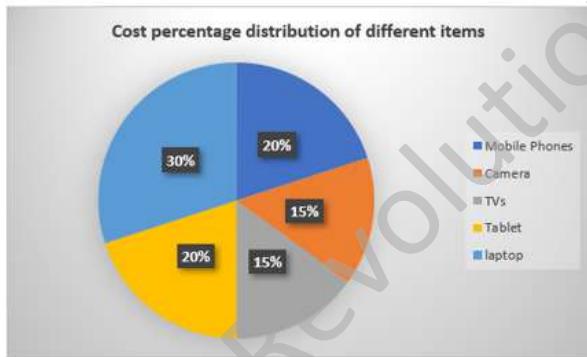
Q.10)- Three numbers are in the ratio of 5 : 7 : 9 and their LCM is 34,650. Their HCF is:

1. 55 2. 315 3. 110 4. 99

Q.11)- Rupu's income is 20% more than Madhu's income. Madhu's income is less than Rupu's income by:

1. $16\frac{2}{3}\%$ 2. 20% 3. $18\frac{2}{3}\%$ 4. $17\frac{2}{3}\%$

Study the given graph and answer the question that follows.
The following graph shows the distribution of the cost percentage of different items.



If a person purchased all the items for ₹3,00,000, then the cost of a TV is less than that of a laptop by:

Q.12)-

1. ₹50,000 2. ₹55,000 3. ₹40,000 4. ₹45,000

Q.13)- The sides of a rectangle are in the ratio of 3 : 8 and its area is 1944 cm^2 . What is its perimeter?

1. 208 cm 2. 189 cm 3. 198 cm 4. 308 cm

Q.14)- A boy goes from home to school at a speed of 30 km/h and returns back at a speed of 70 km/h. What is his average speed for the journey?

1. 42 km/h 2. 36 km/h 3. 48 km/h 4. 38 km/h

Q.15)- In an election between two candidates, 20% of the voters on the voters list did not cast their votes and 80 voters cast their ballot papers blank. The winner secured 45% of all the voters in the list and he got 280 votes more than his rival. The number of voters on the list was:

1. 2000 2. 2500 3. 1500 4. 2800

Q.16)- Find the fourth proportional to 0.48, 0.84 and 32.

1. 43 2. 34 3. 56 4. 65

Q.17)- An item with a marked price of ₹z was sold for ₹6,622, after a discount of 12% was offered. What was the value of z?

1. ₹7,425 2. ₹7,500 3. ₹7,575 4. ₹7,525

Q.18)- Find the least number which is exactly divisible by 20, 28, 34, 60 and 75.

1. 35900 2. 36220 3. 34500 4. 35700

Q.19)- Mahesh agreed to sell rice with 24% loss, as the rice got rotten. However, he cheated customers and gave only 19 gm of rice in place of 50 gm of rice. What is the percentage of his profit or loss?

1. $\frac{100}{3}\%$ profit 2. $\frac{100}{3}\%$ loss 3. 100% loss 4. 100% profit

Q.20)- The salary of Arpit fell by 5% after 1 year and further fell by 8% after the second year due to bad performance. Initially, his salary was ₹80,000. What is his current salary (in ₹)?

1. 70920 2. 69920 3. 69620 4. 65720

Q.21)- The height and the radius of the base of a right circular cone are in the ratio of 12 : 5. If its volume is 314 cm³, then what is the slant height of the cone? (Use $\pi = 3.14$)

1. 13 cm 2. 11 cm 3. 14 cm 4. 12 cm

Q.22)- Mihir buys a book for ₹625. However, because of certain urgency, he sells it for ₹550. Find his loss percentage.

1. 15% 2. 14% 3. 10% 4. 12%

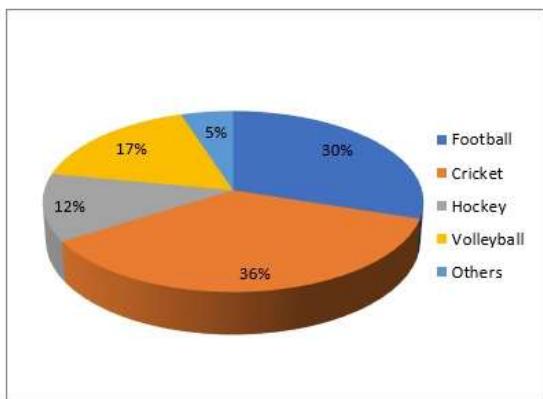
Q.23)- Study the given table and answer the question that follows.

The table shows data of population and literacy/illiteracy rate among the population in three different villages. The number of illiterates in village R is what percentage less than that in village P?

| Village | Respective ratio between number of males and females | Percentage of literates (Males and females) out of total population | Number of illiterates (Males and females) out of total population |
|---------|--|---|---|
| P | 2 : 5 | 45 | 380 |
| Q | 3 : 7 | 65 | 270 |
| R | 1 : 3 | 80 | 150 |

1. $60\frac{8}{19}\%$ 2. $60\frac{9}{19}\%$ 3. $60\frac{11}{19}\%$ 4. $60\frac{10}{19}\%$

The given pie-chart represents the survey report on favourite games of a group of young people.



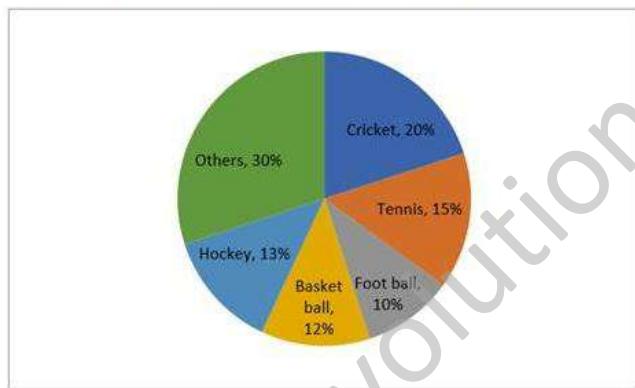
Q.24)- If a total of 4980 people were surveyed, then what is the central angle produced by the sector indicating football?

1. 100°
2. 90°
3. 108°
4. 105°

Q.25)- The average weight of 8 students is 48 kg. If four students of average weight 44 kg and four students of average weight 58 kg is also added, then find the average weight of 16 students.

1. 48 kg
2. 49.5 kg
3. 49 kg
4. 48.5 kg

The pie chart below shows the spendings of a state on various sports during a particular year:



Q.26)- If the total amount spent on sports during the year was ₹75,00,000 then how much (in ₹) was spent on cricket and hockey together?

1. ₹21,55,000
2. ₹24,75,000
3. ₹18,75,000
4. ₹26,80,000

Q.27)- If $a + b + c = 5$ and $ab + bc + ca = 7$, then the value of $a^3 + b^3 + c^3 - 3abc$ is:

1. 15
2. 25
3. 30
4. 20

Q.28)- If $\sin A = \frac{\sqrt{3}}{2}$, $0 < A < 90^\circ$, then find the value of $2(\operatorname{cosec} A + \cot A)$.

1. $\frac{1}{\sqrt{3}}$
2. $\frac{2}{\sqrt{3}}$
3. $2\sqrt{3}$
4. $\sqrt{3}$

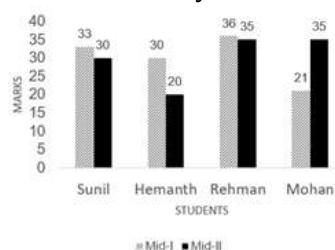
Q.29)- In a $\triangle ABC$, the bisectors of angle ABC and angle ACB intersect each other at point O. If the angle BOC is 125° , then the angle BAC is equal to:

1. 75°
2. 70°
3. 78°
4. 82°

Q.30)- Study the given bar graph carefully to answer the question that follows.

Marks obtained by four students in Mid-I and Mid-II.

Marks obtain by Hemanth in Mid-I are what percentage of the total marks obtained by all the students in Mid-I?



1. 20% 2. 25% 3. 15% 4. 30%

Q.31)- Find the LCM of 73 and 657.

1. 657 2. 146 3. 73 4. 365

Q.32)- In a circle of radius 42 cm, an arc subtends an angle of 60° at the centre. Find the length of the arc.

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

1. 22 cm 2. 21 cm 3. 42 cm 4. 44 cm

Q.33)- If $\sin A = \frac{2}{3}$, then find the value of $(7 - \tan A)(3 + \cos A)$.

1. $\frac{61}{3} - \frac{17}{3\sqrt{5}}$ 2. $\frac{61}{3} + \frac{17}{3\sqrt{5}}$ 3. $\frac{61}{3} + \frac{17}{\sqrt{5}}$ 4. $\frac{61}{3\sqrt{5}} + \frac{17}{3}$

Q.34)- If $\sin \beta = \frac{1}{3}$, $(\sec \beta - \tan \beta)^2$ is equal to:

1. $\frac{3}{4}$ 2. $\frac{1}{2}$ 3. $\frac{2}{3}$ 4. $\frac{1}{3}$

Q.35)- If $\cos A = \frac{1}{2}$, $0 \leq A \leq 90^\circ$, then what is the value of $\sin(180 - A)$?

1. $\frac{1}{\sqrt{3}}$ 2. $\frac{1}{2}$ 3. $\frac{\sqrt{3}}{2}$ 4. 1

Q.36)- What is the HCF of $(x^6 + 1)$ and $(x^4 - 1)$?

1. $(1+x)$ 2. 1 3. $(1-x^2)$ 4. $(1+x^2)$

Q.37)- Simplify the given expression.

$$(1 - 2x)^2 - (1 + 2x)^2$$

1. $2 + 8x^2$ 2. $8x$ 3. $-(2 + 8x^2)$ 4. $-8x$

Q.38)- A cylinder has some water in it at a height of 16 cm. If a sphere of radius 9 cm is put into it, then find the rise in the height of the water if the radius of the cylinder is 12 cm.

1. 6.75 cm 2. 8 cm 3. 6 cm 4. 8.75 cm

A right square pyramid having lateral surface area is 624 cm^2 . If the length of the diagonal of the square is $24\sqrt{2}$, then the volume of the pyramid is:

- Q.39)-
1. 1150 cm^3 2. 780 cm^3 3. 960 cm^3 4. 1083 cm^3

Q.40)- If 2 men or 4 women can build a wall in 34 days, in how many days can 6 men and 5 women build the same wall?

1. 16 2. 12 3. 24 4. 8

A can do $\frac{1}{5}$ of a piece of work in 20 days, B can do 30% of the same work in 36 days, while C can do 80% of the same work in 160 days. B and C together started and worked for x days. After x days B left the work, and A joined C and both completed the remaining work in $(x - 41)$ days. If the ratio between the work done by (B + C) together to the work done by (A + C) together is 19 : 6, then what fraction of the same work can be completed by C alone in $2x$ days?

Q.41)-

1. $\frac{6}{25}$ 2. $\frac{57}{100}$ 3. $\frac{19}{25}$ 4. $\frac{13}{25}$

Q.42)- The total surface area of a solid hemisphere is 4158 cm^2 . Find its volume (in cm^3).

1. 9702 2. 462 3. 19404 4. 1848

Q.43)- Find the HCF of 78, 84, 90 and 112.

1. 2 2. 1 3. 7 4. 5

Q.44)- If the radius of two circles be 6 cm and 9 cm and the length of the transverse common tangent be 20 cm, then find the distance between the two centres.

1. 27 cm 2. 22 cm 3. 25 cm 4. 24 cm

Q.45)- Which is the largest number that divides each of 1036, 1813 and 3885 without leaving any remainder?

1. 111 2. 37 3. 333 4. 259

Q.46)- If interest be compounded half-yearly, then find the compound interest on ₹8,000 at 20% p.a. for 1 year.

1. ₹1,685 2. ₹1,675 3. ₹1,690 4. ₹1,680

The value of $\frac{\frac{1}{2} + 3\frac{1}{4} + \frac{1}{2} \div \frac{13}{14} + \frac{1}{5}}{\frac{1}{5} \times 3\frac{1}{2} - \frac{1}{3} \div 1\frac{3}{4} \times 3\frac{1}{2}}$ is:

- Q.47)-
1. 33 2. 38 3. 40 4. 36

The table below shows the number of laptops sold by the 4 sellers and the ratio of Brand1 laptops sold to Brand 2 laptops sold.

| Seller | Total laptops sold | Brand1 laptops sold: Brand2 laptops sold |
|--------|--------------------|---|
| A | 4000 | 3 : 1 |
| B | 6000 | 2 : 1 |
| C | 8000 | 5 : 3 |
| D | 5000 | 1 : 4 |

The number of Brand1 laptops sold by A seller is how many more than the number of Brand2 laptops sold by B seller?

- Q.48)-**
 1. 1000 2. 1200 3. 800 4. 600

Q.49)- In a circle, chords AB and CD intersect internally at E. If CD = 18 cm, DE = 5cm, AE = 13 cm, then the length of BE is:

1. 5 cm 2. 7 cm 3. 3 cm 4. 4 cm

Q.50)- Study the given table and answer the question that follows.

The table shows the number of students studying in 6 different classes of 6 different schools.

Which class has the minimum number of students from all schools together?

| Schools | V | VI | VII | VIII | IX | X |
|---------|-----|-----|-----|------|-----|-----|
| P | 152 | 160 | 145 | 156 | 147 | 144 |
| Q | 148 | 166 | 150 | 155 | 157 | 143 |
| R | 161 | 152 | 140 | 145 | 143 | 165 |
| S | 159 | 142 | 149 | 140 | 142 | 168 |
| T | 147 | 144 | 158 | 163 | 154 | 150 |
| U | 150 | 160 | 162 | 160 | 160 | 140 |
| Total | 917 | 924 | 904 | 919 | 903 | 910 |

1. X 2. VIII 3. IX 4. VII

Answer key

| | | | | | | | | | |
|------|---|------|---|------|---|------|---|------|---|
| Q.1 | 2 | Q.2 | 3 | Q.3 | 1 | Q.4 | 1 | Q.5 | 3 |
| Q.6 | 4 | Q.7 | 2 | Q.8 | 2 | Q.9 | 2 | Q.10 | 3 |
| Q.11 | 1 | Q.12 | 4 | Q.13 | 3 | Q.14 | 1 | Q.15 | 1 |
| Q.16 | 3 | Q.17 | 4 | Q.18 | 4 | Q.19 | 4 | Q.20 | 2 |
| Q.21 | 1 | Q.22 | 4 | Q.23 | 4 | Q.24 | 3 | Q.25 | 2 |
| Q.26 | 2 | Q.27 | 4 | Q.28 | 3 | Q.29 | 2 | Q.30 | 2 |
| Q.31 | 1 | Q.32 | 4 | Q.33 | 2 | Q.34 | 2 | Q.35 | 3 |
| Q.36 | 4 | Q.37 | 4 | Q.38 | 1 | Q.39 | 3 | Q.40 | 4 |
| Q.41 | 2 | Q.42 | 3 | Q.43 | 1 | Q.44 | 3 | Q.45 | 4 |
| Q.46 | 4 | Q.47 | 4 | Q.48 | 1 | Q.49 | 1 | Q.50 | 3 |



RBE- Revolution By Education



By: Shubham Jain
(Selected as GST Inspector)
Your life, Your hard work, Your success.



05/10/2023-> (12:30 PM - 2:30 PM)

Q.1)- Two circles with centres P and Q of radii 6 cm and 4 cm, respectively, touch each other internally. If the perpendicular bisector of PQ meets the bigger circle in A and B, then the value of AB is:

1. $2\sqrt{35}$ cm 2. $\sqrt{35}$ cm 3. $2\sqrt{5}$ cm 4. $\sqrt{5}$ cm

Q.2)- Two circles touch each other externally at C. AB is a direct common tangent to the two circles, A and B are points of contact and $\angle CAB = 55^\circ$. Then $\angle ACB$ is:

1. 90° 2. 35° 3. 55° 4. 45°

Q.3)- A family earns ₹75,000, out of which 10% is saved. 30% of the expenditure is incurred on education, while ₹30,375 is spent on health and the remaining amount is spent on food. What is the percentage of food expenditure to the total income?

1. 22.5% 2. 21.5% 3. 20% 4. 32.5%

Study the given table chart carefully and answer the question that follows.

The given table represents the number of employees in five different organisations, i.e., A, B, C, D and E in 2019, 2020, 2021 and 2022.

| Organisation | Years | | | |
|--------------|-------|------|------|------|
| | 2019 | 2020 | 2021 | 2022 |
| A | 4000 | 7800 | 2600 | 5200 |
| B | 3800 | 9200 | 9100 | 7300 |
| C | 4500 | 5500 | 7800 | 3250 |
| D | 7000 | 3800 | 8000 | 4650 |
| E | 6600 | 6200 | 7600 | 2880 |

Q.4)- The ratio of the number of employees in 2019 in organisations D and E taken together to that in 2021 in the same organisations is:

1. 39 : 34 2. 9 : 14 3. 34 : 39 4. 14 : 9

Q.5)- The LCM of 96, 132 and 438 is:

1. 67055 2. 86084 3. 85046 4. 77088

Q.6)- Robert takes twice as much time as Tom and thrice as much time as George to complete a work. If working together, they can complete it in 23 hours, then find the time that Tom will take to complete the work.

1. 46 hours 2. 69 hours 3. 11 hours 4. 39 hours

Q.7)- Study the given table and answer the question that follows.

The table shows the number of employees in five different organisations A, B, C, D and E in different departments.

Which organisation has maximum number of employees?

| Dept ↓ Org → | A | B | C | D | E |
|-----------------|------|------|------|------|------|
| HR | 1050 | 1015 | 976 | 888 | 1004 |
| Finance | 1017 | 960 | 786 | 1025 | 963 |
| Marketing | 1382 | 1384 | 1275 | 1300 | 1290 |
| Production | 1542 | 1545 | 4550 | 1570 | 1580 |
| Accounts | 786 | 745 | 801 | 800 | 735 |
| Legal | 48 | 54 | 36 | 30 | 53 |
| Total | 5825 | 5703 | 5424 | 5613 | 5625 |

1. E 2. D 3. A 4. B

The following table shows the data of 10th grade students of Portland High school.

| | Boys | Girls |
|-------------------------|------|-------|
| Enrolled in Science | 25 | 20 |
| Not enrolled in Science | 20 | 30 |

Q.8)- What is the approximate percentage of the 10th grade boys of Portland High school who are NOT enrolled in Science?

1. 55.55% 2. 33.33% 3. 44.44% 4. 22.22%

Q.9)- Find the amount (integral value only) if a sum of ₹6,500 is being borrowed at 10% interest per annum for 2 years if interest is compounded half-yearly.

1. ₹8,150 2. ₹7,650 3. ₹8,250 4. ₹7,900

Q.10)- Arbind has 650 kg of wheat. A part of which he sells at 9% profit and the rest at 19% profit to get 15% profit on the whole. What is the quantity (in kg) of wheat sold by Arbind at 9% profit?

1. 455 2. 260 3. 390 4. 195

Q.11)- A train of length 180 m takes 40 seconds to cross a tunnel of length 500 m. What is the speed of the train, in km/h?

1. 71.2 2. 52.5 3. 61.2 4. 80.5

Q.12)- Find the LCM of 20, 30, 45 and 65.

1. 2000 2. 2340 3. 2240 4. 180

Q.13)- Two successive discounts of 30% and 20% are equivalent to a single discount of:

1. 45% 2. 44% 3. 50% 4. 52%

Q.14)- Find the value of $\frac{\sin^2 39^\circ + \sin^2(90^\circ - 39^\circ)}{\cos^2 35^\circ + \cos^2(90^\circ - 35^\circ)} + 3\tan 25^\circ \tan 75^\circ$:

1. 4 2. 1 3. 2 4. 3

Q.15)- If $a - \frac{1}{a} = 4$, then the value of $a + \frac{1}{a}$ is:

1. $2\sqrt{5}$ 2. $4\sqrt{5}$ 3. $5\sqrt{5}$ 4. $3\sqrt{5}$

Q.16)- The monthly income of an employee was ₹26,500 and his monthly expenditure was ₹22,000. Next year his income increased by 20% and his expenditure increased by 15%. Find the percentage increase in his savings.

1. $44\frac{8}{9}\%$ 2. $44\frac{4}{9}\%$ 3. $44\frac{5}{9}\%$ 4. $44\frac{7}{9}\%$

Q.17)- Out of two concentric circles, the radius of the outer circle is 6 cm and the chord PQ of the length 10 cm is a tangent to the inner circle. Find the radius (in cm) of the inner circle.

1. $\sqrt{13}$ 2. $\sqrt{11}$ 3. 4 4. $\sqrt{7}$

Q.18)- A sum amounts to ₹7,656 in 4 years and to ₹8,120 in 5 years at a certain simple interest rate per cent per annum. The rate of interest is:

1. 7% 2. 4% 3. 3% 4. 8%

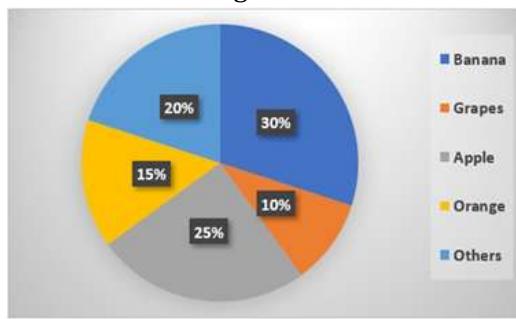
Q.19)- What is the LCM of 0.15, 0.18 and 0.45?

1. 0.81 2. 0.6 3. 0.09 4. 0.9

Q.20)- Study the given pie-chart and answer the question that follows.

The pie-chart shows the sale of different fruits in a shop in a day.

If a total of 1200 kg of fruits were sold in a day, find the difference between sales of grapes and oranges (in kg).



1. 5.5 2. 4.5 3. 6.5 4. 6.0

Q.21)- A sphere and another solid hemisphere have the same surface area. The ratio of their volumes is:

1. $\sqrt{3} : 4$ 2. $3\sqrt{3} : 8$ 3. $3\sqrt{3} : 4$ 4. $2\sqrt{3} : 8$

Q.22)- The greatest possible length that can be used to measure exactly the lengths of 3 m 15 cm, 5 m, and 6 m 85 cm is:

1. 5 cm 2. 9 cm 3. 11 cm 4. 7 cm

Q.23)- Three candidates contested an election and won 1136, 7636 and 11628 votes, respectively. What percentage of the total votes did the winning candidate get?

1. 49 2. 45 3. 33 4. 57

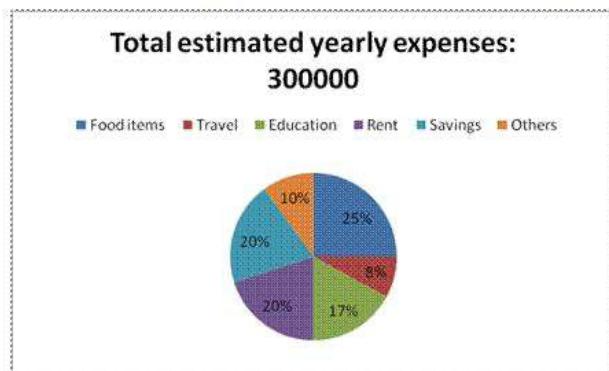
Q.24)- What will be the least number which when doubled will be exactly divisible by 12, 14, 16 and 18?

1. 636 2. 504 3. 226 4. 428

Q.25)- Which of the following ratios is the greatest?

1. 5 : 6 2. 2 : 5 3. 1 : 3 4. 7 : 10

Study the following pie chart and answer the below question:



Q.26)- How much per cent is more expense on rent than the expense on others?

1. 150% 2. 50% 3. 100% 4. 10%

Q.27)- Ram has 12 hens and 5 cows, Shyam has 18 hens and 9 cows, Preetham has 4 hens and 8 cows, and Vinay has 10 hens and 7 cows. Who has a greater ratio of hens to cows?

1. Preetham 2. Shyam 3. Vinay 4. Ram

Q.28)- Simplify the following.

$$9 \times 2 \div 3 \text{ of } 24 - 3 \div 2 \times (6 - 7) \times 2 + 3 \div 3 \text{ of } 5$$

1. $\frac{69}{20}$ 2. 3 3. $\frac{9}{20}$ 4. 4

Q.29)- Vipin can do a piece of work in 2 days; Vaibhav can do the same work in 3 days and Chirag can do the same work in 6 days. If they start working together, how many days will they take to complete the work?

1. 5 2. 4 3. 1 4. 3

Q.30)- By selling a table for ₹1,596, Aarav loses 24%. At what price (in ₹) should he sell it to gain 24%?

1. 2604 2. 3024 3. 1979 4. 3196

Q.31)- What will be the area of a plot of quadrilateral shape, one of whose diagonals is 20 m and lengths of the perpendiculars from the opposite vertices on it are 12 m and 18 m, respectively?

1. 400 m^2 2. 250 m^2 3. 200 m^2 4. 300 m^2

Study the following table carefully and answer the questions based on it.

The following table shows the domestic sales of vehicles of four manufacturers from 2010 to 2015.

| Manufacturer | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|--------------|--------|--------|--------|--------|--------|--------|
| A | 560000 | 580000 | 600000 | 620000 | 650000 | 680000 |
| B | 540000 | 590000 | 570000 | 630000 | 710000 | 550000 |
| C | 610000 | 580000 | 620000 | 680000 | 690000 | 630000 |
| D | 630000 | 570000 | 700000 | 690000 | 700000 | 640000 |

Q.32)- With respect to which of the following combinations, is the sales of vehicles lowest over the given period?

1. A, 2011 2. B, 2010 3. B, 2015 4. A, 2010

Q.33)- If $\sin \theta + \cos \theta = \frac{\sqrt{11}}{3}$, then what is $\sin \theta - \cos \theta$?

1. $\frac{\sqrt{5}}{3}$ 2. $\frac{\sqrt{5}}{2}$ 3. $\frac{\sqrt{7}}{4}$ 4. $\frac{\sqrt{7}}{3}$

Q.34)- The difference between a discount of 30% on ₹5,000 and two successive discounts of 15% and 25% on the same amount is:

1. ₹312.50 2. ₹315.50 3. ₹412.50 4. ₹350.50

Q.35)- The following table shows the marks obtained out of 100, by 5 students in 5 different subjects.

| Students | Hindi | English | Maths | Science | Social |
|----------|-------|---------|-------|---------|--------|
| Ravi | 78 | 84 | 88 | 75 | 79 |
| Abhishek | 84 | 86 | 78 | 89 | 80 |
| Ayush | 88 | 80 | 90 | 82 | 85 |
| Rohit | 72 | 85 | 88 | 89 | 78 |
| Aryan | 86 | 88 | 77 | 79 | 89 |

What are the total marks scored by Ayush in all the subjects?

1. 435 2. 465 3. 445 4. 425

Study the given table and answer the question that follows.

The table shows the number of students studying in six different classes of six different schools.

| School | Class V | Class VI | Class VII | Class VIII | Class IX | Class X |
|--------|---------|----------|-----------|------------|----------|---------|
| P | 152 | 160 | 145 | 156 | 147 | 144 |
| Q | 148 | 166 | 150 | 155 | 157 | 143 |
| R | 161 | 152 | 140 | 145 | 143 | 165 |
| S | 159 | 142 | 149 | 140 | 142 | 168 |
| T | 147 | 144 | 158 | 163 | 154 | 150 |
| U | 150 | 160 | 162 | 160 | 161 | 140 |
| Total | 917 | 924 | 904 | 919 | 904 | 910 |

The number of students studying in class VII from school U is what percentage of the total number of students from all the classes together from that school (rounded off to 2 digits after decimal)?

Q.36)-

1. 17.36% 2. 16.48% 3. 15.63% 4. 18.25%

Q.37)- The LCM of $x^2 - 8x + 15$ and $x^2 - 5x + 6$ is:

1. $(x-5)(x-2)(x-3)$ 2. $(x+5)(x+2)(x+3)$ 3. $(x-2)(x-3)^2(x-5)$ 4. $(x+5)(x-2)(x-3)$

Q.38)- The average of 45 numbers was found to be 39. Later on, it was detected that a number 65 was misread as 56. Find the correct average of the given numbers.

1. 39.2 2. 37.2 3. 38.2 4. 36.2

Q.39)- If $\tan\theta + \cot\theta = 2$, θ is an acute angle, then find the value of $2 \tan^{25} \theta + 3 \cot^{20} \theta + 5 \tan^{30} \theta \cot^{15} \theta$.

1. 1.0 2. 1.2 3. 6 4. 8

Q.40)- The total surface area of a cone whose radius is 3 cm and height is 4 cm is:

1. $\frac{425}{7} \text{ cm}^2$ 2. $\frac{475}{8} \text{ cm}^2$ 3. $\frac{501}{9} \text{ cm}^2$ 4. $\frac{528}{7} \text{ cm}^2$

Q.41)- Julie and Soma start from the same point and walk in opposite directions. Julie walks 4 km/h faster than Soma. After 4 hours they are 40 km apart. How fast did each walk?

1. Julie – 10 km/h; Soma – 6 km/h
2. Julie – 9 km/h; Soma – 5 km/h
3. Julie – 8 km/h; Soma – 4 km/h
4. Julie – 7 km/h; Soma – 3 km/h

In a survey, 200 respondents were asked whether they owned a vehicle or not. Their responses are tabulated below. What percentage of respondents do NOT own a car?

| | | Men | Women |
|--------------------|---------|-----|-------|
| Own Vehicle | Scooter | 30 | 20 |
| | Car | 25 | 10 |
| | Both | 15 | 5 |
| Do not own vehicle | | 50 | 45 |

Q.42)-

1. 68.5%
2. 65%
3. 72.5%
4. 75%

Q.43)- A runner runs a 750-metre race in 54 seconds. Find the runner's speed (in km/h).

1. 30
2. 40
3. 50
4. 14

Q.44)- Two metallic balls P and Q are such that the diameter of P is four times the diameter of Q. What is the ratio between the volumes of P and Q?

1. 32:1
2. 64:1
3. 8:1
4. 16:1

Q.45)- If $\frac{x}{4y} = \frac{3}{4}$, then the value of $\frac{2x + 3y}{x - 2y}$ is:

1. 8
2. 7
3. 6
4. 9

Q.46)- In an equilateral ΔPQR , S is point on the side QR such that $QR = 3QS$. If $PQ = 9$ cm, then what will be the length (in cm) of PS?

1. $\sqrt{60}$
2. $\sqrt{62}$
3. $\sqrt{61}$
4. $\sqrt{63}$

The curved surface area of a solid cylinder of height 15 cm is 660 cm^2 . What is the volume (in cm^3) of the cylinder? (Take $\pi = \frac{22}{7}$)

Q.47)-

1. 3210
2. 2060
3. 2540
4. 2310

Q.48)- A can do a certain piece of work in 2.4 times the number of days in which B and C together can do it. If A and B together can do the said piece of work in 27 days and C alone can do it in 75 days, then how many days will B take to do this piece of work alone?

1. 48
2. 54
3. 42
4. 45

Q.49)- A person sold two cars for ₹60,000 each. On one, he gained 20% while on the other he lost 20%. Find the percentage of his gain or loss.

1. Gain 4% 2. Loss 2% 3. Loss 4% 4. No profit and no loss

Q.50)- Find the value of $\sin(50^\circ + A) - \cos(40^\circ - A)$.

1. 1 2. -1 3. 0 4. 2

Answer key

| | | | | | | | | | |
|------|---|------|---|------|---|------|---|------|---|
| Q.1 | 1 | Q.2 | 1 | Q.3 | 1 | Q.4 | 3 | Q.5 | 4 |
| Q.6 | 2 | Q.7 | 3 | Q.8 | 3 | Q.9 | 4 | Q.10 | 2 |
| Q.11 | 3 | Q.12 | 2 | Q.13 | 2 | Q.14 | 1 | Q.15 | 1 |
| Q.16 | 2 | Q.17 | 2 | Q.18 | 4 | Q.19 | 4 | Q.20 | 4 |
| Q.21 | 3 | Q.22 | 1 | Q.23 | 4 | Q.24 | 2 | Q.25 | 1 |
| Q.26 | 3 | Q.27 | 4 | Q.28 | 1 | Q.29 | 3 | Q.30 | 1 |
| Q.31 | 4 | Q.32 | 2 | Q.33 | 4 | Q.34 | 1 | Q.35 | 4 |
| Q.36 | 1 | Q.37 | 1 | Q.38 | 1 | Q.39 | 1 | Q.40 | 4 |
| Q.41 | 4 | Q.42 | 3 | Q.43 | 3 | Q.44 | 2 | Q.45 | 4 |
| Q.46 | 4 | Q.47 | 4 | Q.48 | 4 | Q.49 | 3 | Q.50 | 3 |



RBE- Revolution By Education



By: Shubham Jain
(Selected as GST Inspector)
Your life, Your hard work, Your success.



05/10/2023-> (4:00 PM - 6:00 PM)

Q.1)- Ankita sold three toys. The first toy was sold for ₹1,500 at a profit of 25%; the second toy was sold for ₹2,800 at a loss of 50% and the third toy was sold for ₹3,500 at a profit of 25%. Find her total profit or loss percentage.

1. 15.25% profit 2. 18.75% loss 3. 18.75% profit 4. 15.25% loss

Q.2)- ΔPQR is right angled at Q such that $PQ=(x-y)$, $QR=x$ and $PR=(x+y)$. S is a point on QR such that $QS=PQ$. The ratio $QS:SR$ for any values of x and y is:

1. 2 : 1 2. 1 : 3 3. 1 : 2 4. 3 : 1

Q.3)- Which of the following is the greatest four-digit number that is divisible by 15, 25, 40, and 75?

1. 9600 2. 9000 3. 9500 4. 9200

Q.4)- The LCM of two numbers is five times their HCF. If the product of the two numbers is 20480, then find their HCF and LCM, respectively.

1. 56 and 280 2. 48 and 240 3. 46 and 230 4. 64 and 320

Q.5)- The radius of a metallic spherical ball is 3 cm. If the metallic ball is melted and recast into x number of hemispheres of radius equal to half the radius of the metallic spherical ball, then find the value of x.

1. 13 2. 16 3. 14 4. 15

Q.6)- The HCF and LCM of two numbers are 9 and 126, respectively. Find the larger number, if the ratio between the numbers is 2 : 7.

1. 21 2. 77 3. 42 4. 63

Q.7)- An article is sold at a discount of 25% and an additional discount of 28% is allowed on cash payment. If Ramendra purchased the article by paying ₹10,800 in cash, then what was the marked price of the article?

1. ₹20,800 2. ₹20,000 3. ₹18,000 4. ₹19,800

Q.8)- Find the fourth proportional of 22, 66 and 11.

1. 39 2. 17 3. 23 4. 33

Q.9)- The value of $2\tan^2 45^\circ + \cos^2 30^\circ - \sin^2 60^\circ$ is:

1. -1 2. -2 3. 2 4. 1

Q.10)- If $\frac{2\sin A - \cos A}{\sin A + \cos A} = 1$, then find the value of $\cot A$.

1. 1 2. $\frac{1}{3}$ 3. $\frac{1}{2}$ 4. 2

Study the given table and answer the question that follows.

The table shows the number of employees in three organisations during three years.

| Year \ Organization | 2018 | 2019 | 2020 |
|---------------------|------|------|------|
| P | 75 | 69 | 85 |
| Q | 96 | 81 | 74 |
| R | 85 | 63 | 90 |

What is the respective ratio between total number of employees in organisations P and R together in 2019 and total number of employees in organisations Q and R together in 2020?

Q.11)-

1. 41 : 31 2. 23 : 41 3. 33 : 23 4. 33 : 41

Q.12)- A man covers a certain distance by bike. If he covers 25% of the distance at the speed of 25 km/h, 50% of the distance at the speed of 50 km/h and the remaining distance at the speed of 12.5 km/h, find his average speed over the whole journey.

1. 25 km/h 2. 30 km/h 3. 20 km/h 4. 35 km/h

Q.13)- In a 1200 m race, Rakesh reaches the final point in 36 seconds and Rajesh reaches in 40 sec. By how much distance does Rakesh beat Rajesh?

1. 130 m 2. 140 m 3. 120 m 4. 150 m

Q.14)- Study the given table and answer the question that follows.

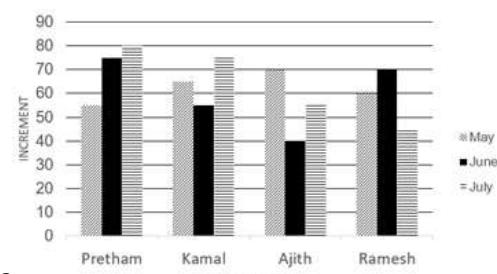
The table shows the number of students in various courses in various cities A, B, C, D and E in India during the academic year 2022-2023.

During the academic year 2022-2023, which city had the largest number of students?

| City | MBA | Science | Engineering | Medicine | MCA | Total |
|------|------|---------|-------------|----------|------|-------|
| A | 1200 | 2560 | 4520 | 1100 | 960 | 10340 |
| B | 1350 | 2650 | 5100 | 1050 | 850 | 11000 |
| C | 1250 | 2640 | 4580 | 1120 | 750 | 10340 |
| D | 1960 | 1250 | 3500 | 1850 | 1600 | 10160 |
| E | 1200 | 2100 | 3500 | 960 | 540 | 8300 |

1. C 2. B 3. D 4. A

Q.15)- Study the given bar graph carefully and answer the question that follows. Increment of four employees (in ₹) in the months of May, June and July.



What is Kamal's overall average increment in three months?

1. ₹65 2. ₹70 3. ₹75 4. ₹60

The following table represents the number of scooters sold by 5 stores in 4 different months in the year 2022.

| Months \ Stores | A | B | C | D | E |
|-----------------|-----|-----|-----|-----|-----|
| January | 212 | 168 | 173 | 182 | 190 |
| February | 312 | 250 | 212 | 175 | 182 |
| March | 280 | 275 | 265 | 255 | 245 |
| April | 270 | 280 | 290 | 305 | 275 |

Find the ratio between the total number of scooters sold by stores A and B together in January and the total number of scooters sold by stores D and E together in March?

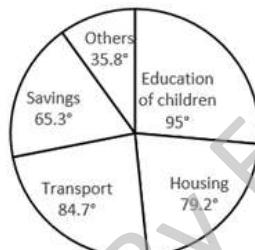
Q.16)-

1. 19 : 25 2. 17 : 25 3. 18 : 23 4. 20 : 23

Q.17)- Study the given pie-chart carefully and answer the question that follows.

Degree wise Break-up of Expenditure of a Family in a Month

Total Amount Spent In a Month = ₹56800.

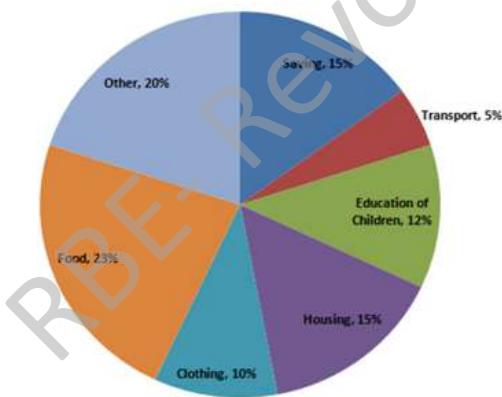


What is the amount spent by the family on housing?

1. ₹12,496 2. ₹6,248 3. ₹10,615 4. ₹11,814

Study the given pie-chart and answer the question that follows.

The pie-chart shows the expenditure of a family on different items and their savings throughout the year 2021.



If the total income for the year was ₹1,00,000, then the difference in the expenses (in ₹) between housing and transport was:

Q.18)-

1. 9,500 2. 9,000 3. 10,500 4. 10,000

Q.19)- Some ice pieces, spherical in shape, of diameter 6 cm are dropped in a cylindrical container containing some juice and are fully submerged. If the diameter of the container is 18 cm and level of juice rises by 40 cm, then how many ice pieces are dropped in the container?

1. 90 2. 95 3. 85 4. 80

Q.20)- The ratio of monthly income and expenditure of a man is 7:3. If his expenditure is ₹5,400, find his monthly income.

1. ₹12,600 2. ₹10,400 3. ₹11,500 4. ₹13,300

The following table gives the number of different types of batteries sold by a company over the years (numbers in hundreds).

| Type of battery \ Year | 7AH | 32AH | 35AH | 55AH |
|------------------------|-----|------|------|------|
| 2018 | 20 | 30 | 40 | 50 |
| 2019 | 40 | 35 | 45 | 45 |
| 2020 | 50 | 40 | 40 | 40 |
| 2021 | 40 | 50 | 50 | 45 |
| 2022 | 45 | 45 | 35 | 55 |

What is the difference in the number of 7AH batteries sold in 2021 and 2022?

Q.21)-

1. 200 2. 300 3. 500 4. 700

Q.22)- Find the HCF of 125, 250 and 750.

1. 125 2. 25 3. 75 4. 50

Q.23)- Simplify the given expression.

$$(x - 2y)(y - 3x) + (x + y)(x - y) + (x - 3y)(2x + y)$$

1. $2x(x - 3y)$ 2. $2y(x - 3y)$ 3. $2x(x + 3y)$ 4. $2y(x + 3y)$

If Arun can complete $\frac{2}{3}$ rd of a work in 12 days, then in how many days can he

Q.24)- complete $\frac{1}{6}$ th of the same work?

1. 3 2. 5 3. 4 4. 2

Q.25)- If $\sin\theta + \cos\theta = \sqrt{2} \cos\theta$, then find $\frac{\sin\theta - \cos\theta}{\sin\theta}$:

1. 1 2. $\sqrt{2}$ 3. $-\sqrt{2}$ 4. -1

Q.26)- A shopkeeper marked the price as ₹15,000 on an article, and a successive discount of 5%, 10% and 20% was allowed on it. What is the selling price?

1. ₹13,520 2. ₹9,850 3. ₹10,260 4. ₹11,520

Q.27)- A shopkeeper sells sugar at ₹40 per kg, which he purchased at ₹36 per kg. His weighing machine is faulty and it weighs only 800 gm while selling. His percentage profit (correct to 2 decimal places) is:

1. 38.89% 2. 37.58% 3. 39.28% 4. 40%

Q.28)- The chord of a circle is equal to its radius. Find the difference between the angle subtended by this chord at the minor arc and major arc of the circle.

1. 60° 2. 150° 3. 30° 4. 120°

Q.29)- The LCM of 8, 12 and 18 is:

1. 24 2. 72 3. 36 4. 48

Q.30)- The length of the common chord of two intersecting circles is 24 cm. If the diameter of the circles are 30 cm and 26 cm, then the distance between the centres (in cm) is:

1. 16 cm 2. 12 cm 3. 14 cm 4. 18 cm

Q.31)- Ayush spends 25% of an amount of money on an insurance policy, 26% on food, 23% on children's education and 19% on recreation. He deposits the remaining amount of ₹26,600 in the bank. What is the total amount (in ₹) that he spends on food and recreation together?

1. 1,95,000 2. 1,71,000 3. 1,62,000 4. 1,83,000

Q.32)- In a school of 720 students, the ratio of boys to girls is 3 : 5. Find how many new boys may be allowed to the school if 18 new girls are admitted, so that the ratio of boys to girls changes to 2 : 3.

1. 50 2. 38 3. 42 4. 44

Q.33)- A and B are equally efficient, and each can individually complete a piece of work in 36 days, if none takes any holiday. A and B started working together on this piece of work, but A took a day off after every five days of work, while B took a day off after every seven days of work. If the duo had started work on 1 July 2021, on which date was the work completed?

1. 21 July 2021 2. 20 July 2021 3. 22 July 2021 4. 19 July 2021

Q.34)- The number of balls, each one is 4 cm in the diameter that can be made from a solid metallic sphere of diameter 32 cm is:

1. 256 2. 512 3. 64 4. 1024

Q.35)- The least number of five digits which is exactly divisible by 9, 12, 15, 25 and 27 is:

1. 10700 2. 10250 3. 10800 4. 10600

Q.36)- In ΔABC with sides 8 cm, 9 cm and 12 cm, the angle bisector of the largest angle divides the opposite sides into two segments. What is the length of the shorter segment?

1. $4\frac{11}{17}$ cm 2. $3\frac{9}{17}$ cm 3. $5\frac{11}{17}$ cm 4. $6\frac{13}{17}$ cm

Q.37)- What is the average of the first six prime numbers?

1. $6\frac{2}{3}$ 2. $6\frac{1}{6}$ 3. $6\frac{5}{6}$ 4. $6\frac{1}{3}$

Q.38)- In a store, Arun has two options to buy a mobile phone, either he can pay the full amount of Rs.2,500 or he may buy at an instalment scheme, i.e. Rs.520 in down payment and four equal instalments, rate of interest being charged at 25% p.a. simple interest. Arun buys a mobile phone on the instalment scheme. What is the monthly instalment for Arun?

1. Rs.550 2. Rs.520 3. Rs.530 4. Rs.510

Q.39)- If $\cot^2 \theta = 1 - e^2$, then the value of $\operatorname{cosec} \theta + \cot^3 \theta \sec \theta$ is:

1. $(1 - e^2)$ 2. $(2 - e^2)^{\frac{3}{2}}$ 3. $(1 - e^2)^{\frac{3}{2}}$ 4. $(2 - e^2)^{\frac{1}{2}}$

Q.40)- A, B and C can do a piece of work in 11 days, 20 days and 55 days respectively. How soon can the work be done if A works with B on first day, A works with C on second day and so on?

1. $8\frac{1}{2}$ days 2. $9\frac{1}{2}$ days 3. 9 days 4. 8 days

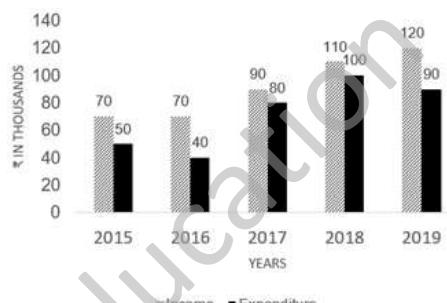
Q.41)- Simplify the given expression.

$$b + 2a - [(3b + a) - (2a + b) + 2a] - a$$

1. b 2. a 3. -b 4. -a

Q.42)- The given graph shows the income and expenditure of a family.

Study the graph and answer the question that follows.



The expenditure of the family increased by ___ from 2017 to 2018.

1. 20% 2. 22% 3. 25% 4. 11%

Study the given table and answer the question that follows.

| Number of children | Number of families |
|--------------------|--------------------|
| 0 | 4 |
| 1 | 22 |
| 2 | 15 |
| 3 | 6 |
| 4 | 2 |

Q.43)- The average number of children per family is:

1. 1.47 2. 1.23 3. 1.59 4. 1.72

Q.44)- If the sum of two numbers is 60 and their HCF and LCM are 5 and 60, respectively, then the sum of the reciprocals of the numbers will be:

1. $\frac{1}{11}$ 2. $\frac{1}{4}$ 3. $\frac{1}{6}$ 4. $\frac{1}{5}$

Q.45)- If the slant height of a cone is 29 cm and its height is 20 cm, find the ratio between the magnitudes of total surface area and the volume.

1. 7 : 15 2. 3 : 7 3. 3 : 14 4. 5 : 14

Q.46)- A fast local of Mumbai takes 45 minutes less than a slow local for a journey of 150 km. If the speed of the fast local is 10 km/h more than that of the slow local, find the speed (in km/h) of the slow local train.

1. 35 2. 30 3. 40 4. 45

Q.47)- If 30% of Ravi's income is equal to 40% of Suresh's income, then 50% of Ravi's income is equal to what percentage of Suresh's income?

1. $33\frac{1}{3}\%$ 2. $66\frac{2}{3}\%$ 3. $66\frac{1}{3}\%$ 4. $33\frac{2}{3}\%$

Q.48)- The value of a washing machine depreciated from ₹40,960 to ₹21,970 in 3 years. Find the yearly rate of depreciation.

1. 16.25% 2. 20% 3. 25% 4. 18.75%

Q.49)- A hollow cylindrical tube made of plastic is 3 cm thick. If the external diameter is 20 cm and length of the tube is 49 cm, find the volume of the plastic.

1. 7546 cm^3 2. 7644 cm^3 3. 7854 cm^3 4. 7238 cm^3

Q.50)- Rakesh runs a coaching institute having 50 faculty members. The average monthly salary of 35 faculty members is ₹37,500. What will be the average monthly salary (in ₹) of the other 15 faculty members, if the average monthly salary of all the 50 faculty members is found to be ₹30,000?

1. 13,500 2. 13,000 3. 12,000 4. 12,500

Answer key

| | | | | | | | | | |
|------|---|------|---|------|---|------|---|------|---|
| Q.1 | 2 | Q.2 | 4 | Q.3 | 1 | Q.4 | 4 | Q.5 | 2 |
| Q.6 | 4 | Q.7 | 2 | Q.8 | 4 | Q.9 | 3 | Q.10 | 3 |
| Q.11 | 4 | Q.12 | 1 | Q.13 | 3 | Q.14 | 2 | Q.15 | 1 |
| Q.16 | 1 | Q.17 | 1 | Q.18 | 4 | Q.19 | 1 | Q.20 | 1 |
| Q.21 | 3 | Q.22 | 1 | Q.23 | 2 | Q.24 | 1 | Q.25 | 3 |
| Q.26 | 3 | Q.27 | 1 | Q.28 | 4 | Q.29 | 2 | Q.30 | 3 |
| Q.31 | 2 | Q.32 | 3 | Q.33 | 1 | Q.34 | 2 | Q.35 | 3 |
| Q.36 | 3 | Q.37 | 3 | Q.38 | 2 | Q.39 | 2 | Q.40 | 4 |
| Q.41 | 3 | Q.42 | 3 | Q.43 | 3 | Q.44 | 4 | Q.45 | 4 |
| Q.46 | 3 | Q.47 | 2 | Q.48 | 4 | Q.49 | 3 | Q.50 | 4 |

For SSC Exams Complete Preparation (Download RBE Application)

(Learn from those who have cleared the exam themselves)

<https://play.google.com/store/apps/details?id=com.revolution.education>

SSC EXAMS 2024-25



Officers' Batch

Recorded
Videos Based on
Latest Pattern

SSC CGL (Till Tier-2), SSC CHSL | SSC CPO | SSC MTS | SSC STENO

All Subjects

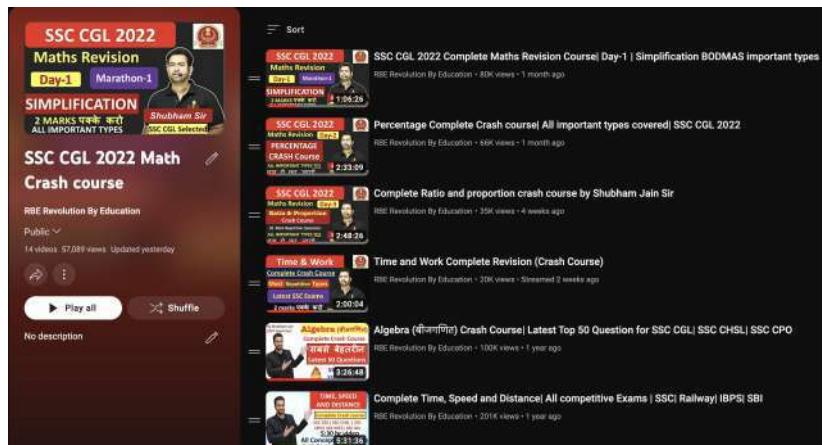
**Maths
Reasoning
English
GK/GS**

**Price
1999/- Only**
 9 Months Validity
SSC नमूल बीडी



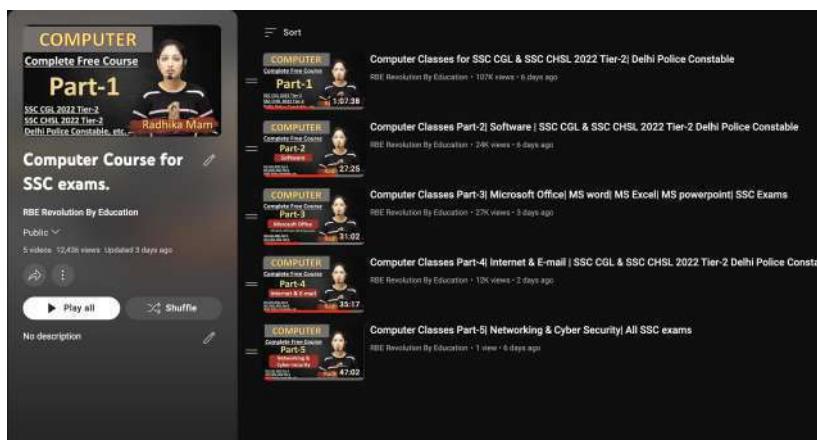
SHUBHAM JAIN SIR
SSC CGL SELECTED

Important Free Playlists



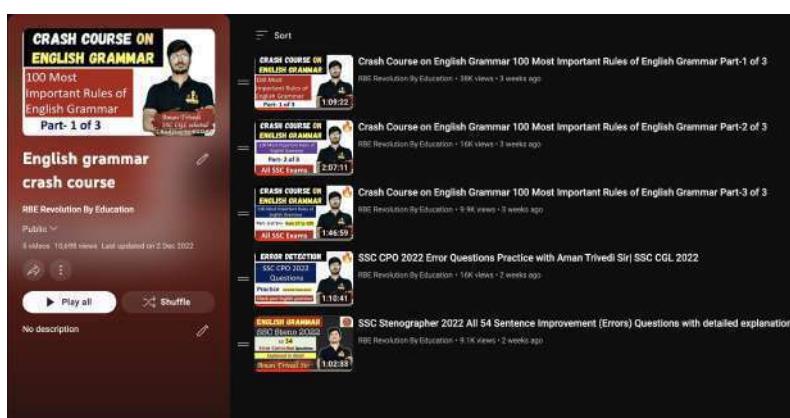
Maths

[https://youtube.com/playlist?
list=PL5SDIP42gG0hyfTcmzRS7poiHflQy4_dp](https://youtube.com/playlist?list=PL5SDIP42gG0hyfTcmzRS7poiHflQy4_dp)



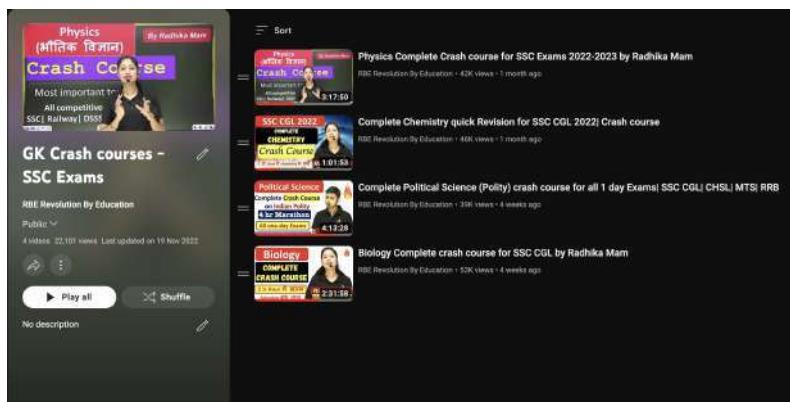
Computer

[https://youtube.com/playlist?
list=PL5SDIP42gG0g61Xxo0JwAc1i
VDUR2Uyhi](https://youtube.com/playlist?list=PL5SDIP42gG0g61Xxo0JwAc1iVDUR2Uyhi)



English

[https://youtube.com/playlist?
list=PL5SDIP42gG0j8xFLAuPW8G
s-Ow57H1h51](https://youtube.com/playlist?list=PL5SDIP42gG0j8xFLAuPW8Gs-Ow57H1h51)



GK

[https://youtube.com/playlist?
list=PL5SDIP42gG0jYdib8TRhsiuKph
Yhn0W5-](https://youtube.com/playlist?list=PL5SDIP42gG0jYdib8TRhsiuKphYhn0W5-)

Download RBE Application now-

<https://play.google.com/store/apps/details?id=com.revolution.education>

SSC EXAMS 2024-25



Officers' Batch

Recorded
Videos Based on
Latest Pattern

SSC CGL (Till Tier-2), SSC CHSL | SSC CPO | SSC MTS | SSC STENO

All Subjects

Maths
Reasoning
English
GK/GS

Price
1999/- Only
9 Months Validity
SSC मतलब RBE



SHUBHAM JAIN SIR
SSC CGL SELECTED

For SSC Exams Complete Preparation (Download RBE Application)
(Learn from those who have cleared the exam themselves)

<https://play.google.com/store/apps/details?id=com.revolution.education>

Complete General Awareness for SSC Exams 2022-23

LEARN FROM THE BEST:- VOD BATCH

Top Quality Content at The
Best Affordable Prices

Learn From Those Who Themselves Have Cleared The Examination

Course Fee:- 799/-
Validity 8 Months

SSC मतलब RBE



SSC Exams

Targeted Math Batch

Dronacharya Batch

Price
899/- (6 months)
1199/- (1 Year)
Price May Differ in Future

- Basic to High Level VOD Course.
- (No Previous knowledge required).
- Exam Oriented approaches.
- Chance to learn from already Selected person.
- SSC Exams Preparation Basic (Useful for Bank, State Exam, CSAT, etc., etc.)
- Recorded Videos (Saves time)
- Maximum Focus on latest pattern of SSC exams.
- Guidance to clear Exams in first attempt.

SSC Exams Pre + Mains

SSC मतलब RBE

Learn From Those Who Themselves
Have Cleared The Exam



SSC Exams 2022 REASONING

Complete Course
Pre + Mains

Course Fees 299/-
Validity 8 Month

Happy Rao Sir

ENGLISH PANACEA BATCH

For all SSC Exams

Fees:- 599/-

1 year validity

Recorded Plus Live Videos

Detailed Concepts of
All Topic Plus Practice Sessions

Amazing Concepts

Aman Trivedi Sir

Selected as CGA Auditor



All SSC PYQ printable PDF Link:-
<https://rbelearning.com/courses/16/content/24>

ALL SSC EXAMS

SSC CGL, SSC CHSL, SSC CPO, SSC MTS
SSC GD, RAILWAY RRB NTPC, GROUP D
SSC SELECTION POST, Etc.

All Previous Year Papers

Free Subject-wise Mock PDFs.



Test Series on latest pattern for SSC exams

<https://rbelearning.com/test-series>

SSC CGL-2023

Tier-2 Rs.149 Test Series

Based on Latest Pattern
20 Tier-2 Mocks



All SSC PYQ Chapter-wise printable PDF course:-

<https://play.google.com/store/apps/details?id=com.revolution.education>

SSC Exams 2020-23 Chapter-wise pdfs

GK, Reasoning, Maths & English

PDFs of exams:

- SSC CGL Tier-1 (2020, 2021, 2022)
- SSC CGL Tier-2 (2019, 2020, 2021, 2022)
- SSC CPO Tier-1 (2020, 2022)
- SSC CPO Tier-2 (2018, 2019, 2020, 2022)
- SSC CHSL Tier-1 (2019, 2020, 2021, 2022)
- SSC Steno Tier-1 (2019, 2020, 2022)
- SSC MTS Tier-1 (2020, 2021)
- SSC GD 2021, 2022
- Delhi police HCM 2022
- SSC IMD 2022
- Selection Post Phase Ix, x, xi

अपनी preparation को दे नयी उड़ान Smart pdfs

199 Only/- 8 months' Validity

First choice of Selected aspirants



We will try to give more pdf with time.
Future SSC Exams pdfs will also be provided.

<https://rbelearning.com/test-series>

SSC CGL/CHSL 2023

Best Test Series

Based on Latest pattern
30 Tier-1 Mock
10 Sectional Tests

Rs. 99



Best content

RBE Telegram Channel
https://t.me/RBE_S/ 8128



For SSC Exams all previous year papers, updates related to exam and study material

RBE free Current Affairs E-book
https://t.me/RBE_S/ 8128



RBE free Computer E-book
https://t.me/RBE_S/7989



Download RBE Application now-
<https://play.google.com/store/apps/details?id=com.revolution.education>

RBE Revolution By Education

Money Maths Financial Services

4.8★ 100K+ 3+
4.08K reviews Downloads Rated for 3+

Install

Remove from wishlist



Download RBE Application now-

<https://play.google.com/store/apps/details?id=com.revolution.education>

SSC EXAMS 2024-25



Officers' Batch

Recorded
Videos Based on
Latest Pattern

SSC CGL (Till Tier-2), SSC CHSL | SSC CPO | SSC MTS | SSC STENO

All Subjects

Maths
Reasoning
English
GK/GS

Price
1999/- Only
9 Months Validity
SSC मतलब RBE



SHUBHAM JAIN SIR
SSC CGL SELECTED

For SSC Exams Complete Preparation (Download RBE Application)
(Learn from those who have cleared the exam themselves)

<https://play.google.com/store/apps/details?id=com.revolution.education>

Complete General Awareness for SSC Exams 2022-23

LEARN FROM THE BEST:- VOD BATCH

Top Quality Content at The
Best Affordable Prices

Learn From Those Who Themselves Have Cleared The Examination

Course Fee:- 799/-
Validity 8 Months

SSC मतलब RBE



SHUBHAM SIR
SSC CGL SELECTED

SSC Exams Targeted Math Batch

Dronacharya Batch

Price
899/- (6 months)
1199/- (1 Year)
Price May Differ in Future

Basic to High Level VOD Course.
(No Previous knowledge required).

Exam Oriented approaches.
Chance to learn from already Selected person.
SSC Exams Preparation Basic (Useful for Bank,
State Exam, CSAT, etc., etc.)

Recorded Videos (Saves time)

Maximum Focus on latest pattern of SSC exams.

Guidance to clear Exams in first attempt.

SSC Exams Pre + Mains

SSC मतलब RBE

Learn From Those Who Themselves
Have Cleared The Exam

Price
899/- (6 months)
1199/- (1 Year)
Price May Differ in Future

Learn From Those Who Themselves
Have Cleared The Exam



ENGLISH PANACEA BATCH

For all SSC Exams

Fees:- 599/-
1 year validity

Recorded Plus Live Videos

Detailed Concepts of
All Topic Plus Practice Sessions

Amazing Concepts



SSC Exams 2022
REASONING
Complete Course
Pre + Mains

Course Fees 299/-
Validity 8 Month

Practice Sessions Will Follow Time To Time as Required

Happy Rao Sir

All SSC PYQ printable PDF Link:-
<https://rbelearning.com/courses/16/content/24>

ALL SSC EXAMS

SSC CGL, SSC CHSL, SSC CPO, SSC MTS
SSC GD, RAILWAY RRB NTPC, GROUP D
SSC SELECTION POST, Etc.

All Previous Year Papers

Free Subject-wise Mock PDFs.



Test Series on latest pattern for SSC exams

<https://rbelearning.com/test-series>

SSC CGL-2023

Tier-2 Rs.149
Test Series

Based on Latest Pattern
20 Tier-2 Mocks



All SSC PYQ Chapter-wise printable PDF course:-

<https://play.google.com/store/apps/details?id=com.revolution.education>

SSC Exams 2020-23 Chapter-wise pdfs
GK, Reasoning, Maths & English

PDFs of exams:

SSC CGL Tier-1 (2020, 2021, 2022)
SSC CGL Tier-2 (2019, 2020, 2021, 2022)
SSC CPO Tier-1 (2020, 2022)
SSC CPO Tier-2 (2018, 2019, 2020, 2022)
SSC CHSL Tier-1 (2019, 2020, 2021, 2022)
SSC Steno Tier-1 (2019, 2020, 2022)
SSC MTS Tier-1 (2020, 2021)
SSC GD 2021, 2022
Delhi police HCM 2022
SSC IMD 2022
Selection Post Phase Ix, x, xi

अपनी preparation को दे नयी उड़ान
Smart pdfs

199 Only/-
8 months' Validity

First choice of Selected aspirants



We will try to give more pdf with time.
Future SSC Exams pdfs will also be provided

<https://rbelearning.com/test-series>

SSC CGL/CHSL 2023
Best Test Series
Based on Latest pattern
30 Tier-1 Mock
10 Sectional Tests
Rs. 99



RBE Telegram Channel
https://t.me/RBE_S_8128



For SSC Exams all previous year papers, updates related to exam and study material

RBE free Current Affairs E-book
https://t.me/RBE_S_8128



RBE free Computer E-book
https://t.me/RBE_S_7989



Download RBE Application now-
<https://play.google.com/store/apps/details?id=com.revolution.education>

RBE Revolution By Education

Money Maths Financial Services

4.8★
4.08K reviews 100K+ Downloads 3+
Rated for 3+

Remove from wishlist

Install

