

Section : Quantitative Aptitude(Basic Arithmetic Skill)

Q.1 The value of  $\tan(63^\circ - \theta) - \cot(27^\circ + \theta) + \frac{\operatorname{cosec}^2 70^\circ - \tan^2 20^\circ}{\sec^2 37^\circ - \cot^2 53^\circ}$  is:

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

Question ID : 424429979  
Status : Not Answered  
Chosen Option : --

Q.2 If  $\alpha$  and  $\beta$  are two roots of the quadratic equation  $ax^2 - bx + c = 0$  where  $a, b, c$  are constants and  $a \neq 0$ , then the value of  $\frac{1}{\alpha} + \frac{1}{\beta}$  is

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

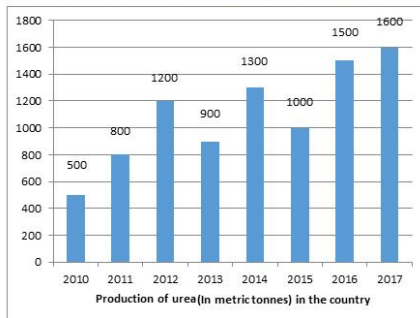
Question ID : 424429975  
Status : Not Answered  
Chosen Option : --

**Q.3** The average score of a cricketer for 20 matches is 52 runs. His highest score is more than its lowest score by 120 runs. If these two innings are excluded, the average of the remaining 18 matches is 50 runs. The highest score of the player is:

- Ans**
- 1. 130
  - 2. 125
  - 3. 120
  - 4. 140

Question ID : 424429964  
Status : Not Answered  
Chosen Option : --

**Q.4** Study the given chart carefully and answer the question accordingly.



In which of the following years was the percentage increase in production from the previous year, the maximum among the given years?

- Ans**
- 1. 2014
  - 2. 2016
  - 3. 2012
  - 4. 2011

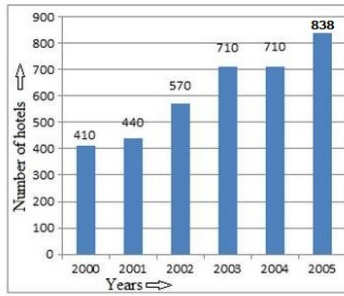
Question ID : 424429982  
Status : Answered  
Chosen Option : 2

**Q.5** A can complete a task in 18 days while B can complete the same task in 12 days. If both work together for 6 days, and then A leaves. In how many days will B complete the task?

- Ans**
- 1. 6 days
  - 2. 2 days
  - 3. 3 days
  - 4. 4 days

Question ID : 424429961  
Status : Answered  
Chosen Option : 2

**Q.6** Study the given chart and answer the question.



In which of the given years is the percentage increase in the number of hotels in comparison to the previous year, is the maximum?

- Ans**
- 1. 2004
  - 2. 2003
  - 3. 2001
  - 4. 2002

Question ID : 424429983  
 Status : Answered  
 Chosen Option : 2

**Q.7** In triangle ABC, AD, BE and CF are medians and G is the centroid of the triangle. If the area of the triangle DGC is  $20\text{ cm}^2$ , then the area of triangle AGF + the area of triangle BGF is equal to:

- Ans**
- 1.  $40\text{ cm}^2$
  - 2.  $30\text{ cm}^2$
  - 3.  $20\text{ cm}^2$
  - 4.  $25\text{ cm}^2$

Question ID : 424429973  
 Status : Marked For Review  
 Chosen Option : 1

**Q.8** A triangle PQR is right angled at Q. E and F are mid points of QR and PR, respectively. What will be the ratio of the area of the quadrilateral PQEF to the area of triangle PQR.

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

Question ID : 424429972  
 Status : Not Answered  
 Chosen Option : --

**Q.9** A wire in the shape of a circle of radius 28 cm is bent in the form of a square. What is the difference of their areas?

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

- Ans
- 1. 538 cm<sup>2</sup>
  - 2. 530 cm<sup>2</sup>
  - 3. 532 cm<sup>2</sup>
  - 4. 528 cm<sup>2</sup>

Question ID : 424429971

Status : Not Attempted and Marked For Review

Chosen Option : --

**Q.10** The marked price of a shirt was ₹1,800. A man bought the same shirt for ₹1,200 after getting two successive discounts. If the first discount was 12%, what was the second discount rate? (Correct to two decimal place)

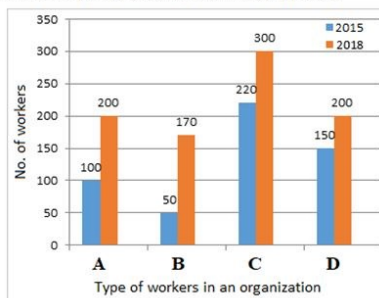
- Ans
- 1. 22.22%
  - 2. 24.24%
  - 3. 20.20%
  - 4. 25.25%

Question ID : 424429965

Status : Not Answered

Chosen Option : --

**Q.11** Study the given chart and answer the question.



The percentage increase in the number of workers in 2018 is maximum as compared to that in 2015 in case of workers of type:

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

Question ID : 424429984

Status : Answered

Chosen Option : 4

**Q.12** How many numbers between 800 to 2000 are divisible by 13?

- Ans
- 1. 90
  - 2. 92
  - 3. 93
  - 4. 91

Question ID : 424429977

Status : Answered

Chosen Option : 2

Q.13 If  $X - \frac{1}{X} = 8$ , find the value of  $X^4 + \frac{1}{X^4}$

- Ans
- 1. 4355
  - 2. 4356
  - 3. 4352
  - 4. 4354

Question ID : 424429976  
Status : Not Answered  
Chosen Option : --

Q.14 What percentage of the numbers from 101 to 1000 have 9 in the unit's digit?

- Ans
- 1. 20%
  - 2. 15%
  - 3. 12%
  - 4. 10%

Question ID : 424429966  
Status : Not Answered  
Chosen Option : --

Q.15 The breadth of rectangular field is two-thirds of its length. If its area is  $864 \text{ m}^2$ , then find the cost of fencing it all around at ₹15/m.

- Ans
- 1. ₹2,000
  - 2. ₹1,600
  - 3. ₹1,800
  - 4. ₹2,400

Question ID : 424429963  
Status : Not Answered  
Chosen Option : --

Q.16 The percentage profit earned by selling a mobile for ₹12,000 is equal to the percentage loss incurred by selling the same mobile for ₹9,000. At what price should the mobile be sold to make 20% profit.

- Ans
- 1. ₹18,800
  - 2. ₹15,400
  - 3. ₹16,200
  - 4. ₹12,600

Question ID : 424429967  
Status : Not Answered  
Chosen Option : --

**Q.17** A man travelled a distance of 1200 km in 16 hours. He travelled partly by car at a speed of 40 km/h, and partly by train at a speed of 80 km/h. what is the distance travelled by car?

- Ans**
- 1. 96 km
  - 2. 80 km
  - 3. 120 km
  - 4. 100 km

Question ID : 424429962  
Status : Answered  
Chosen Option : 4

**Q.18** A person borrowed 1,200 at 8% p.a. and ₹1,800 at 10% p.a. as simple interest for the same period. He had to pay ₹1,380 in all as interest. Find the time period.

- Ans**
- 1. 4 years
  - 2. 10 years
  - 3. 6 years
  - 4. 5 years

Question ID : 424429969  
Status : Not Answered  
Chosen Option : --

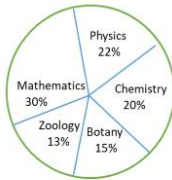
**Q.19** Simplify the following.

$$4\frac{4}{5} \div \left[ 2\frac{1}{5} - \frac{1}{2} \left\{ 1\frac{1}{4} - \left( \frac{1}{4} - \frac{1}{5} \right) \right\} \right]$$

- Ans**
- 1. 4
  - 2. 1
  - 3. 2
  - 4. 3

Question ID : 424429978  
Status : Not Answered  
Chosen Option : --

**Q.20** Study the given pie-chart and table carefully and answer the question that follows. The percentage-wise distribution of lecturers in five different subjects in a university is shown in the pie-chart. The total number of lecturers is 500.



Ratio of male to female lecturers:

Lecturers	Males : Females
Mathematics	7 : 3
Physics	2 : 3
Chemistry	4 : 1
Botany	3 : 5
Zoology	2 : 5

What is the difference in the number of female lecturers in chemistry and Mathematics?

- Ans
- 1. 30
  - 2. 20
  - 3. 22
  - 4. 25

Question ID : 424429985

Status : Not Answered

Chosen Option : --

**Q.21** Evaluate the following.

$$\frac{(12.5)^3 + (7.5)^3}{(12.5)^2 + (7.5)^2 - 12.5 \times 7.5}$$

- Ans
- 1. 25
  - 2. 30
  - 3. 20
  - 4. 15

Question ID : 424429974

Status : Not Answered

Chosen Option : --

**Q.22** By adding 3 and 5 in numerator and denominator of a fraction it becomes  $\frac{2}{3}$ . If 1 and 3 are subtracted and added from numerator and denominator respectively it becomes  $\frac{2}{5}$  find the fraction.

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

Question ID : 424429968

Status : Not Answered

Chosen Option : --

**Q.23** The radii of two circles are 20 cm and 13 cm, respectively. Find the radius of the circle which has a circumference equal to the sum of the circumferences of the two circles.

- Ans
- 1. 30 cm
  - 2. 32 cm
  - 3. 33 cm
  - 4. 28 cm

Question ID : 424429970  
Status : Not Answered  
Chosen Option : --

**Q.24** If  $x = \operatorname{cosec}A + \cos A$  and  $y = \operatorname{cosec}A - \cos A$ , then find the value of  $\left(\frac{2}{x+y}\right)^2 + \left(\frac{x-y}{2}\right)^2 - 1$ .

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

Question ID : 424429980  
Status : Not Answered  
Chosen Option : --

**Q.25** Find the smallest positive angle which satisfies the given trigonometric equation.

$$2\sin^2x + \sqrt{3}\cos x + 1 = 0$$

- Ans
- 1.  $\frac{5\pi}{6}$
  - 2.  $\frac{\pi}{6}$
  - 3.  $\frac{2\pi}{3}$
  - 4.  $\frac{\pi}{3}$

Question ID : 424429981  
Status : Not Answered  
Chosen Option : --