





Ssc Cgl Tier II Previous Year Question Paper Overview

Here, you can solve all the questions asked in Ssc Cgl Tier II Previous Year Question Paper on 2018-02-20 in the Morning exam. The detailed solutions are also provided for every previous year question and some of these questions can be asked again in your Ssc Cgl Tier II exam. There are 100 questions in the exam and 120 minutes are provided for the Ssc Cgl Tier II exam. The Cutoff of the exam was 150 marks hence you should try to score at least 160 marks.

Ssc Cgl Tier II Previous Year Question Paper : Questions and Solutions

Question 1 :

If a + b = 10 and then what is the value of 3ab + 4a2 + 5b2?

Difficulty : Moderate

Options :

- 1. 450
- 2. 300
- 3. 600
- 4. 750

Solution :

The correct answer is option 2. (i.e. 300)

By putting a = b = 5, we get a + b = 10

 $3ab + 4a^2 + 5b^2$

75 + 100 + 125 = 300

300

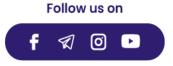
Question 2 : If $x^2 - 12x + 33 = 0$, then what is the value of $(x - 4)^2 + [1/(x - 4)^2]$?

Difficulty : Moderate

Average Time : 36 Seconds

Average Time : 42 Seconds

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Options:

- 1.16
- 2. 14
- 3. 18
- 4. 20

Solution :

The correct answer is option 2 (i.e. 14)

 $x^2 - 12x + 33 = 0$ $(x-4)^2 - 4(x-4) + 1 = 0$ Rate $=\frac{160}{2000} \times 100$

Rate $=\frac{160}{2000} \times 100$

= 14

Question 3 :

In the given figure, PQRS is a quadrilateral. If QR = 18 cm and PS = 9 cm, then what is the area (in cm2) of quadrilateral PQRS?

Difficulty : Moderate

Options :

- 1. (643)/3
- 2. (1773)/2
- 3. (1353)/2
- 4. (983)/3

Solution : The correct answer is option 3 i.e. 1353/2 Average Time : 45 Seconds

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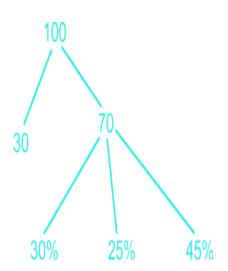






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Given: QR = 18 cm and PS = 9 cm

In triangle APS:

Tan30 = AS/PS

AS = 9/3 = 33 cm

So,

Area of triangle APS = $1/2 \times PS \times AS$

= $1/2 \times 9 \times 33$ $\hat{a} \in \hat{a} \in \hat{a}$

In triangle RAQ:

All angles are 60° so it is an equilateral triangle.

AQ = AR = QR = 18 cm

So,

Area of triangle RAQ = $3/4 \times (18)^2 = 813 \text{ cm}^2$

Area of quadrilateral PQRS = 813 - 273/2 = 1353/2 cm²

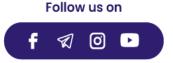
Question 4 :

In a trapezium, one diagonal divides the other in the ratio 2:9. If the length of the larger of the two parallel sides is 45 cm, then what is the length (in cm) of the other parallel side?

Difficulty : Moderate

Average Time: 132 Seconds

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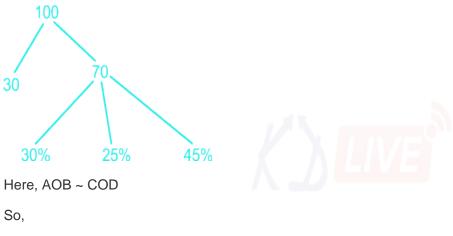


Options:

- 1. 10
- 2.5
- 3. 18
- 4. 14

Solution :

The correct answer is option 1. (i.e. 10)



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AO/CO = AB/CD

2/9 = AB/45

AB = 10 cm

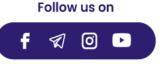
Question 5 :

In the given figure, CD and AB are diameters of circle and AB and CD are perpendicular to each other. LQ and SR are perpendiculars to AB and CD respectively. Radius of cirlce is 5 cm, PB : PA = 2 : 3 and CN : ND = 2 : 3. What is the length (in cm) of SM?

Difficulty : Moderate

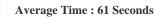
Options :

- 1. [(53) 3]
- 2. [(43) 2]
- 3. [(25) 1]



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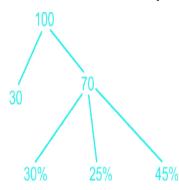
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[(26) - 1]

Solution :

The correct answer is option 4 i.e. [(26) - 1])



Radius = 5 cm, Diameter = 10 cm

PB : PA = 2x : 3x

x = 2

PB = 4 cm & PA = 6 cm

Similarly, CN = 4 cm & ND = 6 cm

PO = NM = 5 - 4 = 1 cm

In SNO:

```
SM = SN - NM = [(26) - 1] cm
```

Question 6 :

If a4 + 1 = [a2/b2] (4b2 - b4 - 1), then what is the value of a4 + b4?

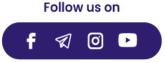
Difficulty : Moderate

Options :

- 1. 2
- 2. 16
- 3. 32
- 4. 64

Average Time : 58 Seconds

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Solution :

The correct answer is option 1. (i.e. 2)

$$\text{Rate} = \frac{160}{2000} \times 100$$

 $\text{Rate} = \frac{160}{2000} \times 100$

$$\text{Rate} = \frac{160}{2000} \times 100$$

$$a^2 = b^2 = 1$$

$$a^4 + b^4 = 2$$

Question 7: If, then what is the value of a?

Difficulty : Moderate

Options :

1.
$$Rate = \frac{160}{2000} \times 100$$

2. $Rate = \frac{160}{2000} \times 100$
3. $Rate = \frac{160}{2000} \times 100$
4. $Rate = \frac{160}{2000} \times 100$

Solution : 160 Rate = $\frac{1}{100} \times 100$ 2000 The correct answer is option 2. (i.e.

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)

Average Time : 48 Seconds





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Rate =
$$\frac{160}{2000} \times 100$$

Rate = $\frac{160}{2000} \times 100$

$$\text{Rate} = \frac{160}{2000} \times 100 \quad \text{Rate} = \frac{160}{2000} \times 100$$

 $100a^2 - 100a + 9 = 0$ Rate $=\frac{160}{2000} \times 100$

 $Rate = \frac{160}{2000} \times 100 \quad Rate = \frac{160}{2000} \times 100$ 140

$$a = \frac{Rate = \frac{100}{2000} \times 100}{Rate = \frac{100}{2000} \times 100}$$

Question 8 :

ABCDEF is a regular hexagon of side 12 cm. What is the area (in cm2) of the triangle ECD?

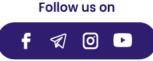
Difficulty : Moderate

Options :

- 1. 183
- 2. 243
- 3. 363
- 4. 423

Solution :

Average Time : 94 Seconds



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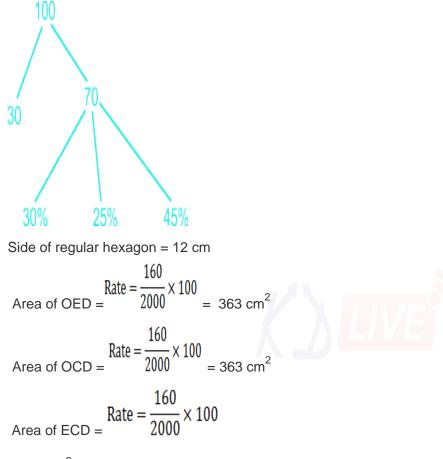
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The correct answer is option 3 i.e. 363



 $= 363 \text{ cm}^2$

Question 9 :

M is the largest 4 digit number, which when divided by 4, 5, 6 and 7 leaves remainder as 2, 3, 4, and 5 respectively. What will be the remainder when M is divided by 9?

Difficulty : Moderate

Options :

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

Average Time : 71 Seconds



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Solution :

The correct answer is option 2 (i.e. 1)

4 - 2 = 2, 5 - 3 = 2, 6 - 4 = 2, 7 - 5 = 2

LCM of 4, 5, 6, 7 = 420

Number, M = 420k - 2

Largest for 4 - digit = 9999

420 × 23 = 9660

 $420 \times 24 = 10080$

 $M = 420 \times 23 - 29658$

Read. Reminder = 9658/9 = 1

Question 10:

Which of the following statement(s) is/are TRUE? I. 11 + 7 10 + 8. II. 17 + 11 > 15 + 13

Difficulty : Moderate

Average Time : 41 Seconds

Options:

- 1. Only I
- 2. Only II
- 3. Both I and II
- 4. Neither I nor II

Solution :

The correct answer is option 1. (i.e. only I)

i) Squaring both the sides

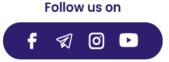
18 + 277 18 + 280 True

ii) Squaring both the sides

18 + 2187 > 28 + 2195 False

Question 11:

In the given figure, PQRS is a square of side 20 cm and SR is extended to point T. If the length of QT is 25 cm, then what is the distance (in cm) between the centres O1 and O2 of the two circles?



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Difficulty : Moderate

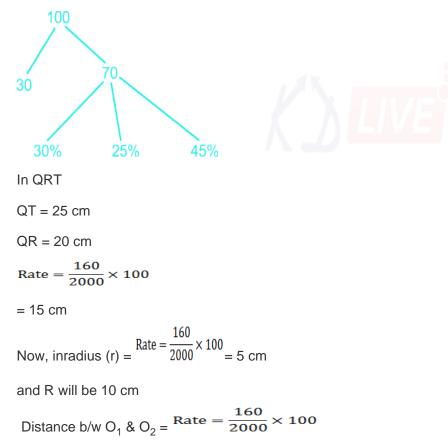
Average Time : 47 Seconds

Options :

- 1. 510
- 2. 410
- 3. 85
- 4. 162

Solution :

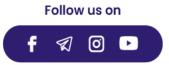
The correct answer is **option 1** i.e. **510**



Distance $O_1 O_2 = 510$ cm

Question 12 :

In the given figure, MNOP is a square of side 6 cm. What is the value (in cm) of radius of circle?



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Difficulty : Moderate

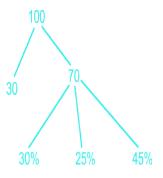
Average Time : 69 Seconds

Options :

- 1. 4.25
- 2. 3.75
- 3. 3.5
- 4. 4.55

Solution :

The correct answer is option 2 i.e. 3.75



Side of square = 6 cm

$$x \times 6 = 3^{2}$$

x = 1.5

MP = 6 - 1.5 = 4.5

Radius of circle = TN = TP + PN

= 2.25 + 1.5

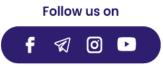
= 3.75 cm

Question 13 :

In the given figure, triangle PQR is a right angled triangle at Q. If PQ = 35 cm and QS = 28 cm, then what is the value (in cm) of SR?

Difficulty : Moderate

Average Time : 55 Seconds



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Options :

- 1. 35.33
- 2. 37.33
- 3. 41.33
- 4. 43.33

Solution :

The correct answer is **option 2** i.e. **37.33**



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QSR = 90°

PS = 21 [Applying pythagorus theorem in triangle PQS]

Now,

 $35^2 = 21 \times (21 + SR)$

1225 = 21 × (21 + SR)

58.33 = (21 + SR)

SR = 37.33 cm

Question 14 :

In the given figure, P is the centre of the circle. If QS = PR, then what is the ratio of RSP to the TPR?

Difficulty : Moderate

Average Time : 60 Seconds

Options :

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- 1:4
- 2.2:5
- 3.1:3
- 4.2:7

Solution :

The correct answer is option 3 i.e. 1:3

$$\Rightarrow \left[\frac{2\sin x (\cos y - 1)}{2\cos x (\cos y - 1)}\right] \times \tan x$$

Let PQR = PRQ =

- So, QPR = (-2)
- And, SQ = QP = PR
- SPQ = PSQ = /2
- So, TPR = -(-2) /2

Rate $=\frac{160}{2000} \times 100$

Question 15:

A hemisphere is kept on top of a cube. Its front view is shown in the given figure. The total height of the figure is 21 cm. The ratio of curved surface area of hemisphere and total surface area of cube is 11 : 42. What is the total volume (in cm3) of figure?

Difficulty : Moderate

Options :

- 1. 3318.33
- 2. 3462.67

Average Time : 63 Seconds



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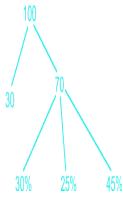


3154.67

4. 3248.33

Solution :

The correct answer is option 2 i.e. 3462.67



r = 7 cm

Side of cube = 14 cm

Volume of the figure = $(14)^3 + 2/3 \times 22/7 \times (7)^3 = 3462.67 \text{ cm}^3$

Question 16 :

A solid cube has side 8 cm. It is cut along diagonals of top face to get 4 equal parts. What is the total surface area (in cm2) of each part?

Difficulty : Moderate

Options:

- 1.96 + 642
- 2. 80 + 642
- 3. 96 + 482
- 4. 80 + 482

Solution :

The correct answer is option 1. i.e. 96 + 642

Question 17:

Average Time: 47 Seconds



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A regular pyramid has a square base. The height of the pyramid is 22 cm and side of its base is 14 cm. Volume of pyramid is equal to the volume of a sphere. What is the radius (in cm) of the sphere?

Difficulty : Moderate

Average Time : 37 Seconds



- **1**. Rate = $\frac{160}{2000} \times 100$
- 2. 7
- 3. 14
- **4**. Rate = $\frac{160}{2000} \times 100$

Solution :

The correct answer is option 2. i.e. 7

Volume of the pyramid = Vol. of sphere (given)

Rate
$$=\frac{160}{2000} \times 100$$

r = 7 cm

Radius of sphere = 7 cm

Question 18 :

The ratio of total surface area and volume of a sphere is 1 : 7. This sphere is melted to form small spheres of equal size. The radius of each small sphere is 1/6th the radius of the large sphere. What is the sum (in cm2) of curved surface areas of all small spheres?

Difficulty : Moderate

Options :

- 1. 31276
- 2. 36194
- 3. 25182
- 4. 33264

Solution :

Average Time : 57 Seconds

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The correct answer is option 4. i.e. 33264

According to the question,

$$\text{Rate} = \frac{160}{2000} \times 100$$

 $Rate = \frac{160}{2000} \times 100$ Radius 'r' of smaller sphere

 $Rate = \frac{160}{2000} \times 100$

Rate =
$$\frac{160}{2000} \times 100$$

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No. of smaller spheres =

n = 216

 $\text{Rate} = \frac{160}{2000} \times 100$ CSA of all small spheres

= 33264

Question 19:

If one root of the equation Ax2 + Bx + C = 0 is two and a half times the others, then which of the following is TRUE?

Difficulty : Moderate

Options:

- 1. $7B^2 = 3 CA$
- 2. $7B^2 = 4 CA$
- 3. $7B^2 = 36 CA$
- 4. $10B^2 = 49 CA$

Solution :

The correct answer is option 4. (i.e. $10B^2 = 49$ CA)

160 Rate=—x100 Let one root be x, other root =

Average Time : 64 Seconds

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 $\text{Rate} = \frac{160}{2000} \times 100$ $Rate = \frac{160}{2000} \times 100$ $\text{Rate} = \frac{160}{2000} \times 100$

..... (i)

..... (ii)

and

 $Rate = \frac{160}{2000} \times 100$ Rate = $\frac{160}{2000} \times 100$ Rate = $\frac{160}{2000} \times 100$

From (i) and (ii)

Rate = $\frac{160}{2000} \times 100$

 $10B^2 = 49 CA$

Question 20:

The distance between the centres of two circles is 61 cm and their radii are 35 cm and 24 cm. What is the length (in cm) of the direct common tangent to the circles?

Difficulty : Moderate

Options:

- 1. 60 2.54 3. 48
- 4.72

Solution : The correct answer is option 1 i.e. 60 Average Time : 89 Seconds

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Length of Direct common tangent

= 3600

= 60 cm

Question 21 :

If A = $(1/0.4) + (1/0.04) + (1/0.004) + \dots$ upto 8 terms, then what is the value of A?

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Difficulty : Moderate

Options :

- 1. 27272727.5
- 2. 25252525.5
- 3. 27777777.5
- 4. 25555555.5

Solution :

The correct answer is option 3 (i.e. 27777777.5)

Rate $=\frac{160}{2000} \times 100$

= 2.5 + 25 + 250 + 2500 + 25000000

$$\text{Rate} = \frac{160}{2000} \times 100$$

= 27777777.5

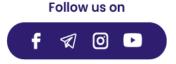
Question 22 : Which of the following statement(s) is/are TRUE? I. 333 > 333 II. 333 > (33)3

Difficulty : Moderate

Average Time : 40 Seconds

Options :





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Average Time : 52 Seconds





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Only I

- 2. Only II
- 3. Both I and II
- 4. Neither I nor II

Solution :

The correct answer is option 4 i.e. (neither I nor II)

Hence this statement is false

ii) $333^3 > (3^3)3 \ 333 > (27)^3$

333 **â‰**⁻ 19683

Hence, this statement is false as well.

So, neither I nor II is true

Question 23:

If $P = 22 + 62 + 102 + 142 + \dots 942$ and $Q = 12 + 52 + 92 + \dots 812$, then what is the value of P - Q?

Difficulty : Moderate

Options:

- 1. 24645
- 2. 26075
- 3. 29317
- 4. 31515

Solution :

The correct answer is option 2 (i.e. 26075)

$$P = 2^{2} + 6^{2} + 10^{2} + 14^{2} + \dots 94^{2}$$

No. of terms = Rate = $\frac{160}{2000} \times 100$ =24

Average Time : 80 Seconds



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$$Q = 1^2 + 5^2 + 9^2 + \dots 81^2$$

 $Rate = \frac{100}{2000} \times 100$ No. of terms =

$$(P - Q) = (22 - 12) + (62 - 52) + \dots (822 - 812) + 862 + 902 + 942$$

= 21

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 $(P - Q) = (3 + 11 + 19 \dots + 163) + 7396 + 8100 + 8836$

$$(P - Q) = 21 \times 83 + 24332$$

= 26075

Question 24 :

If M = 0.1 + (0.1)2 + (0.01)2 and N = 0.3 + (0.03)2 + (0.003)2, then what is the value of M + N?

Difficulty : Moderate

Options :

- 1. 0.411009
- 2. 0.413131
- 3. 0.313131
- 4. 0.131313

Solution :

The correct answer is option 1 (i.e. 0.411009)

 $M = 0.1 + (0.1)^{2} + (0.01)^{2} = 0.1101$

$$N = 0.3 + (0.03)^{2} + (0.003)^{2} = 0.3 + 0.009 + 0.000009$$

= 0.300909

M + N = 0.1101 + 0.300909

M + N = 0.41009

Question 25: If and , then which of the following is TRUE ?

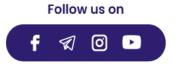
Difficulty : Moderate

Options:

Average Time : 56 Seconds

Average Time : 34 Seconds





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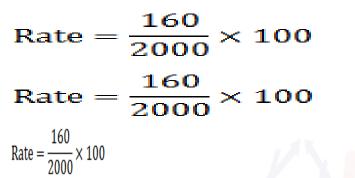
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- P Q R
- 2. R Q P
- 3. Q P R
- 4. R P Q

Solution :

The correct answer is option 2 (i.e. R Q P)



RQP

Question 26 :

Which of the following statement(s) is/are TRUE?

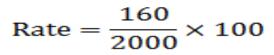
Difficulty : Moderate

Options :

- 1. Only I
- 2. Only II
- 3. Only III
- 4. None is true

Solution :

The correct answer is option 1 (i.e Only I)



Average Time : 50 Seconds

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Rate
$$=\frac{160}{2000} \times 100$$

160 Rate = $\frac{100}{2000} \times 100$ True

Rate $=\frac{160}{2000} \times 100$

By reciprocating the Numerator & Denominator

119.77 102.45 101.58 False

$$\text{Rate} = \frac{160}{2000} \times 100$$

By reciprocating the Numerator & Denominator

1.0134 > 1.0130 > 1.0127 False

```
Question 27:
Which of the following statement(s) is/are TRUE?
```

Difficulty : Moderate

Options:

- 1. Only I
- 2. Only II
- 3. Both I and II
- 4. Neither I nor II

Solution :

The correct answer is option 1 (i.e. Only I)

$$\text{Rate} = \frac{160}{2000} \times 100$$

Rate = $\frac{100}{2000} \times 100$ By reciprocating the N' & Q', & multiplying by

Average Time : 62 Seconds

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Rate =
$$\frac{160}{2000} \times 100$$

It is true
Rate = $\frac{160}{2000} \times 100$
By reciprocating & multiplying by $\text{Rate} = \frac{160}{2000} \times 100$
Rate = $\frac{160}{2000} \times 100$ false

false

Question 28 :

Which of the following statement(s) is/are TRUE? I. The total number of positive factors of 72 is 12. II. The sum of first 20 odd numbers is 400. III. Largest two digit prime number is 97.

Difficulty : Moderate

Options:

Solution :

- 1. Only I and II
- 2. Only II and III
- 3. Only I and III
- 4. All are true



The correct answer is option 4. (i.e. All are true) 1) $72 = 2^3 \times 3^2$ Total positive factor = (3 + 1) (2 + 1) = 4 \times 3 = 12 is true 160

2) Sum =
$$\frac{\text{Rate}}{2000} = \frac{100}{2000} \times 100 = 400$$
 True

3) Largest two digit prime no. is 97 True

Question 29: If $M = (3/7) \div (6/5) \times (2/3) + (1/5) \times (3/2)$ and $N = (2/5) \times (5/6) \div (1/3) + (3/5) \times (2/3) \div (3/5)$, then what is the value of M/N?

Difficulty : Moderate

Average Time : 47 Seconds

Options :

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207/560

- 2. 339/1120
- 3. 113/350
- 4. 69/175

Solution :

The correct answer is option 3. (i.e. 113/350)

Rate =
$$\frac{160}{2000} \times 100$$

Rate = $\frac{160}{2000} \times 100$
Rate = $\frac{160}{2000} \times 100$ Rate = $\frac{160}{2000} \times 100$ Rate = $\frac{160}{2000} \times 100$

Question 30 :

If x + y + z = 22 and xy + yz + zx = 35, then what is the value of (x - y)2 + (y - z)2 + (z - x)2?

Difficulty : Moderate

Options :

- 1. 793
- 2. 681
- 3. 758
- 4. 715
- **Solution :** The correct anwer is option 3. (i.e. 158)

By putting z = 0, we get

Average Time : 56 Seconds



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$$x + y = z^{2}, xy = 35$$

$$x^{2} + y^{2} = 2z^{2} - 2xy = 484 - 70 = 414$$

$$(x - y)^{2} = (x + y)^{2} - 4xy = 2z^{2} - 4 \times 35 = 344$$

$$(x - y)^{2} + (y - z)^{2} + (z - x)^{2}$$

$$(x - y)^{2} + y^{2} + x^{2}$$

344 + 414 758

Question 31 :

Which of the following statement(s) is/are TRUE?

Difficulty : Moderate

Options :

- 1. Only I and II
- 2. Only I and III
- 3. Only I
- 4. All are true

Solution :

The correct answer is option 1 (i.e. only I & II)

i) LCM of 3,4 = 12

So by applying power 12 to all terms

 $12^6 > 16^4 > 24^3$ True

ii) $25^4 > 32^3 > 48^2$ True

iii) $9^3 > 15^4 > 24^2$ True

Only I & II are true

Question 32 : If (x + y)/z = 2, then what is the value of [y/(y - z)] + [x/(x - z)]?

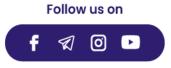
Difficulty : Moderate

Options :

Average Time : 49 Seconds

Average Time : 51 Seconds





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0

- 2.1
- 3. 2
- 4. -1

Solution :

The correct answer is option 3. (i.e. 2)

let x = 0, y = 2, z = 1

$$\text{Rate} = \frac{160}{2000} \times 100$$

= 2

Question 33:

If and are the roots of equation $x^2 - 2x + 4 = 0$, then what is the equation whose roots are 3/2 and 3/2?

Difficulty : Moderate

Average Time : 39 Seconds

Options :

1. $x^2 - 4x + 8 = 0$ 2. $x^2 - 32x + 4 = 0$ 3. $x^2 - 2x + 4 = 0$ 4. $x^2 - 16x + 4 = 0$

Solution :

The correct answer is option 3 (i.e. $x^2 - 2x + 4 = 0$)

 $\ln x^2 - 2x + 4 = 0$ + = 2; = 4 $^{3} + ^{3} = (+)^{3} - 3(+)$ $= 8 - 3 \times 4$ (2) = 8 - 24 = -16

$$^{3} + ^{2} = (+)^{2} - 2$$



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$$= 4 - 2 \times 4$$

= -4
⁵ + ⁵ = (³ + ³) (² + ²) - ()² (+
= (-16) (-4) - 16 \times 2

= 32

Rate =
$$\frac{160}{2000} \times 100$$

)

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Sum of roots =

Product of roots = $\frac{160}{2000} \times 100$

$$= . = 4$$

 $x^{2} - 2x + 4 = 0$

Question 34 :

If 3x + 4y - 2z + 9 = 17, 7x + 2y + 11z + 8 = 23 and 5x + 9y + 6z - 4 = 18, then what is the value of x + y + z - 34?

Average Time : 98 Seconds

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Difficulty : Moderate

Options :

- 1. 28 2. – 14
- 3. 31
- 4. 45

Solution :

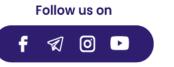
The correct answer is option 3 (i.e. -31)

3x + 4y - 2z = 8	(i)
------------------	-----

7x + 2y + 11z = 15	(ii)
--------------------	------

5x + 9y + 6z = 22 (iii)

By adding all three equations



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=

15	(x	+	У	+	z)	:
x + y + z = 3						
x + y + z –34 = 3	8 – 34 = –31					
Question 35 : If and , then what i	is the value of 46x +	131y ?				
Difficulty : Moderate			Average Tin	ne : 93 Seconds		
Options : 1. 414						
2. 364						
3. 384						
4. 464						
Solution : The correct answ	ver is option 1 (i.e.	. 414)				
$Rate = \frac{160}{2000}$	₅ × 100	(i)				
3x + 4y + 6z = 98	9	(ii)				
x + y + 15z = 63		(iii)				
Adding (i), (ii) & ((iii)					
46x + 131y = 414	4					

Question 36 :

In the given figure, in triangle STU, ST = 8 cm, TU = 9cm and SU = 12 cm. QU = 24 cm, SR = 32 cm and PT = 27 cm. What is the ratio of the area of triangle PQU and area of triangle PTR?

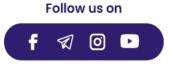
Difficulty : Moderate

Average Time: 103 Seconds

Options :

- 1.1:1
- 2.4:9

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- 2:3
- 4.5:2

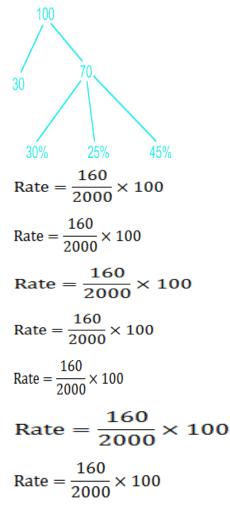
Solution :

The correct answer is option 2 i.e 4:9

Let Area of PQU = A_1

Let Area of PTR = A_2

Let Area of SUT = A



Rate = $\frac{160}{2000} \times 100$

So,





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Question 37 :

In triangle XYZ, G is the centroid, If XY = 11 cm, YZ = 14 cm and XZ = 7 cm, then what is the value (in cm) of GM?

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Difficulty : Moderate

Average Time : 101 Seconds

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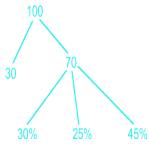
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Options :

- 1. 6
- 2. 4
- 3. 2
- 4.3

Solution :

The correct answer is option 3 i.e. 2



G is the centroid here

By Apollonius theorem,

$$11^2 + 7^2 = (7^2 + MX^2) \times 2$$

 $MX^2 = 1/2 \times (11^2 - 7^2)$

 $MX^2 = 1/2 \times 18 \times 4$

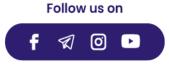
$$MX^{2} = 36$$

$$MX = 6$$

Hence,

 $GM = 1/3 \times 6 = 2 \text{ cm}$





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Question 38 :

In the given figure, PQRS is a square inscribed in a circle of radius 4 cm. PQ is produced till point Y. From Y, a tangent is drawn to the circle at point R. What is the length (in cm) of SY?

Difficulty : Moderate

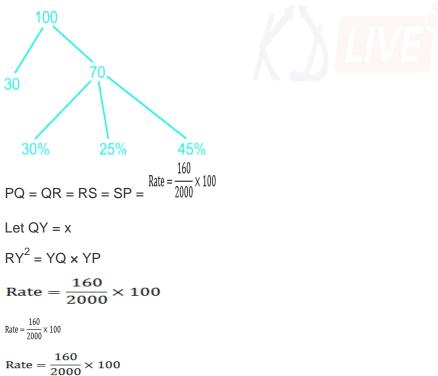
Average Time : 112 Seconds

Options:

- 1. 410
- 2. 210
- 3. 610
- 4.35

Solution :

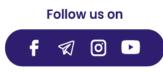
The correct answer is option 1 i.e. 410



Rate $=\frac{160}{2000} \times 100$

Question 39 :

PQR is a triangle, whose area is 180 cm2. S is a point on side QR, such that PS is the angle bisector of QPR. If PQ : PR =



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2:3, then what is the area (in cm2) triangle PSR?

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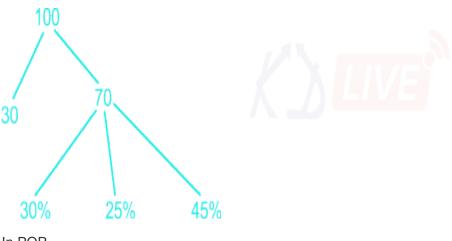
Difficulty : Moderate

Options :

- 1. 90
- 2. 108
- 3. 144
- 4. 72

Solution :

The correct answer is option 2 i.e. 108



In PQR

PQ : PR = 2 : 3 (Given)

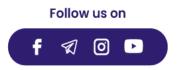
Area of PSR = (Ar PQR)

$$\text{Rate} = \frac{160}{2000} \times 100$$

 $= 108 \text{ cm}^2$

Question 40 :

In the given figure, ABCD is a square. EFGH is a square formed by joing mid points of sides of ABCD. LMNO is a square formed by joining mid point of sides of EFGH. A circle is inscribed inside EFGH. If area of circle is 38.5 cm2, then what is



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the area (in cm2) of square ABCD?

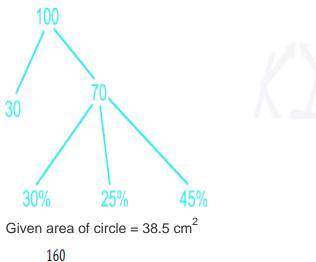
Difficulty : Moderate

Options :

- 1. 98
- 2. 196
- 3. 122.5
- 4. 171.5

Solution :

The correct answer is option 2 i.e. 196



Rate =
$$\frac{160}{2000} \times 100$$

Rate = $\frac{160}{2000} \times 100$

$\text{Rate} = \frac{160}{2000} \times 100$

HG = Diagonal of square LMNO = $Rate = \frac{160}{2000} \times 100$

In triangle HGC,

 $HC^2 + GC^2 = HG^2$

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Average Time : 65 Seconds



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Average Time : 76 Seconds



HC = CG = 7 cm

 $CD = 2 \times HC = 14 \text{ cm}$

Area of square ABCD = 14^2 = 196 cm²

Question 41:

PQRS is a square whose side is 16 cm. What is the value of the side (in cm) of the largest regular octagon that can be cut from the given square?

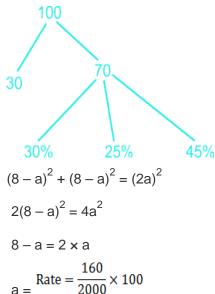
Difficulty : Moderate

Options:

- 1. 8 42
- 2. 16 + 82
- 3. 162 16
- 4. 16 82

Solution :

The correct answer is option 3 i.e. 162 - 16

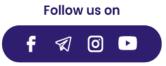


a =

Hence,

Side of regular octagon = 2a = 162 - 16 cm





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Question 42 :

In the given figure, PQRS is a rectangle and a semicircle with SR as diameter is drawn. A circle is drawn as shown in the figure. If QR = 7 cm, then what is the radius (in cm) of the small circle?

Difficulty : Moderate

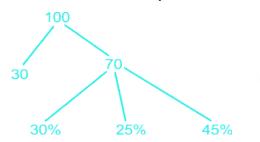
Average Time : 67 Seconds

Options:

- 1. 21 + 142
- 2. 21 142
- 3. Both 21 + 142 and 21 142
- 4. None of these

Solution :

The correct answer is option 2 i.e. 21 – 142



Radius of smaller circle = r

r(2 + 1) = 7(2 - 1)

$$r = 7 (2 - 1)/(2 - 1)$$

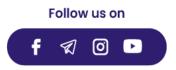
$$\text{Rate} = \frac{160}{2000} \times 100$$

$$_{\rm r}$$
 Rate = $\frac{160}{2000} \times 100$

r = 7 (3 - 22) = 21 - 142

Question 43:

In the given figure, PQR is a quadrant whose radius is 7 cm. A circle is inscribed in the quadrant as shown in the figure. What is the area (in cm2) of the circle?



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Difficulty : Moderate

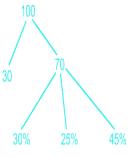
Average Time : 89 Seconds

Options :

- 1. 385 2212
- 2. 308 1542
- 3. 154 772
- 4. 462 3082

Solution :

The correct answer is option 4 i.e. 462 - 3082



ATQ,

2r + r = 7

$$r(2+1) = 7$$

r = 7 (2 - 1)

Area of Circle = $\times r^2$ Rate = $\frac{160}{2000} \times 100$

= 22 × 7 (3 - 22)

= 462 - 3082

Question 44 :

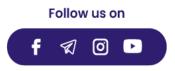
A prism has a regular hexagonal base with side 6 cm. If the total surface area of prism is 2163 cm2, then what is the height (in cm) of prism?

Difficulty : Moderate

Average Time : 62 Seconds

Options :





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- 33
- 2.63
- 3.6
- 4.3

Solution :

The correct answer is option 1 i.e. 33

Let height = h

```
T.S.A. = C.S.A. + 2 (Area of Base)
```

```
160
                                                            Rate=___X100
2163 = 6 \times 6 \times h + 2 \times 6 \times \mathbf{W}^{\text{m}} \times (6)^{2}
```

```
2163 - 1083 = 36 x h
          160
     Rate = ----- × 100
         2000
h =
                 = 33
```

height = 33

Question 45:

The radius of base of solid cone is 9 cm and its height is 21 cm. It cut into 3 parts by two cuts, which are parallel to its base. The cuts are at height of 7 cm and 14 cm from the base respectively. What is the ratio of curved surface areas of top, middle and bottom parts respectively.

Difficulty : Moderate

Options :

- 1.1:4:8
- 2.1:3:5
- 3.1:3:9
- 4. 1:6:12

Solution : The correct answer is option 2 i.e. 1:3:5 Average Time : 61 Seconds



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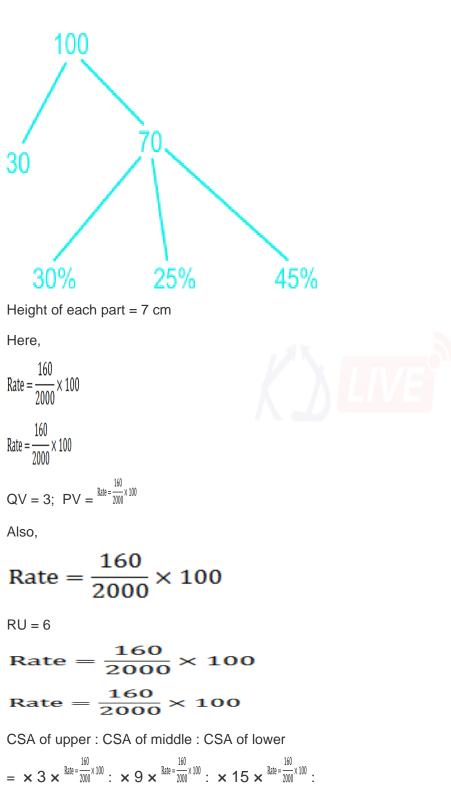
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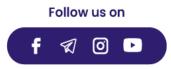
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3:9:15=1:3:5





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Short Trick:

Sum of all ratios should be a perfect square.

From option 2 = 1 + 3 + 5 = 9 (which is perfect square)

Only option 2 satisfied the condition.

Question 46 :

A right circular cylinder has height as 18 cm and radius as 7 cm. The cylinder is cut in three equal parts (by 2 cuts parallel to base). What is the percentage increase in total surface area?

Difficulty : Moderate	Average Time : 109 Seconds
Options : 1. 62	
2. 56	
3. 48	
4. 52	
Solution :	
The correct answer is option 2 i.e. 56%	

100 70 30 70 30 25% 45%

TSA of cylinder

 $= 2 \times r (r + 7)$

= 2 × 7 (7 + 18)

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TSA of 3 new cylinders

$$= 3 \times (2 \times \times 7 \times 6) + 3 \times (2 \times \times (7)^{2})$$

Difference = 4 (7)²
Rate = $\frac{160}{2000} \times 100$
Rate = $\frac{160}{2000} \times 100$

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Question 47 :

The ratio of curved surface area and volume of a cylinder is 1 : 7. The ratio of total surface area and volume is 187 : 770. What is the respective ratio of its base radius and height?

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Difficulty : Moderate

Options :

- 1.5:8
- 2.4:9
- 3.3:7
- 4. 7:10

Solution :

The correct answer is option 4. i.e. 7 : 10

Rate =
$$\frac{160}{2000} \times 100$$

Now, Rate = $\frac{160}{2000} \times 100$

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 $Rate = \frac{160}{2000} \times 100$

Average Time : 67 Seconds

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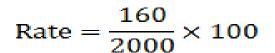
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Question 48 :

What is the value of $[\sin (y - z) + \sin (y + z) + 2 \sin y]/[\sin (x - z) + \sin (x + z) + 2 \sin x]?$

160

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Difficulty : Moderate

Options:

- 1. cos x sin y
- 2. $(\sin y)/(\sin x)$
- 3. sin z
- 4. sin x tan y

Solution :

The correct answer is option 2. i.e.

$$\text{Rate} = \frac{160}{2000} \times 100$$

$$\text{Rate} = \frac{160}{2000} \times 100$$

Rate
$$=\frac{160}{2000} \times 100$$

Question 49 :

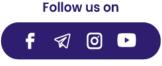
What is the value of $\{[\sin (x + y) - 2 \sin x + \sin (x - y)]/[\cos (x - y) + \cos (x + y) - 2 \cos x]\} \times [(\sin 10x - \sin 8x)/(\cos 10x + \cos 8x)]$?

Difficulty : Moderate

Average Time : 56 Seconds

Options :

- 1.0
 - 2. tan²x



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Average Time : 50 Seconds





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1

4. 2 tan x

Solution :

The correct answer is **option 2** i.e. $\tan^2 x$

$\Rightarrow \left[\frac{2\sin x (\cos y - 1)}{2\cos x (\cos y - 1)}\right] \times \tan x$
$\Rightarrow \left[\frac{2\sin x (\cos y - 1)}{2\cos x (\cos y - 1)}\right] \times \tan x$
$\Rightarrow \left[\frac{2\sin x (\cos y - 1)}{2\cos x (\cos y - 1)}\right] \times \tan x$
$\Rightarrow \left[\frac{2\sin x (\cos y - 1)}{2\cos x (\cos y - 1)}\right] \times \tan x$

 $= tanx \times tanx$

 $= \tan^2 x$

Question 50 :

What is the value of $[\sin (900 - 10) - \cos (p - 6)]/[\cos (p/2 - 10) - \sin (p - 6)]?$

Difficulty : Moderate

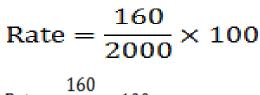
Average Time : 60 Seconds

Options :

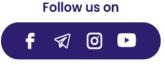
- 1. tan 2
- 2. cot 2
- 3. cot
- 4. cot 3

Solution :

The correct answer is option 2. i.e. cot 2



 $\text{Rate} = \frac{160}{2000} \times 100$



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 $Rate = \frac{160}{2000} \times 100$

 $= \cot 2$

Question 51: If sec (cos + sin) = 2, then what is the value of $(2 \sin)/(\cos - \sin)$? **Difficulty : Moderate Options** : 1.32 2. 3/23. 1/2 4. 2 Solution : The correct answer is option 4 i.e. 2 sec (cos + sin) = 2 $1 + \tan = 2$ $\tan = (2 - 1)$ So, $[(\cot = 2 + 1)]$ Rate $=\frac{160}{2000} \times 100$ Rate $=\frac{160}{2000} \times 100$ **Question 52:** What is the value of **Difficulty : Moderate Options:** 1. $\tan^2 \sec^2$ 2. \sec^4 3. tan⁴

Average Time : 49 Seconds

Average Time : 46 Seconds

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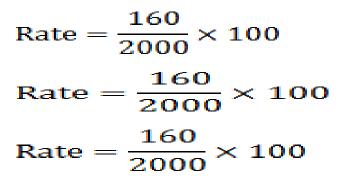
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 $\tan^2 \sin^2$

Solution :

The correct answer is option 1. i.e. $\tan^2\ \sec^2$



 \tan^2 . \sec^2

Question 53 :

What is the value of $[\tan (90^\circ - A) + \cot (90^\circ - A)]2/[2 \sec 2 (90^\circ - 2A)]?$

Difficulty : Moderate

Average Time : 55 Seconds

Options :

- 1.0
- 2.1
- 3. 2
- 4. -1

Solution :

The correct answer is option 3 i.e. 2

$$Rate = \frac{160}{2000} \times 100$$
$$Rate = \frac{160}{2000} \times 100$$
$$Rate = \frac{160}{2000} \times 100$$

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 $Rate = \frac{160}{2000} \times 100$

2

Question 54 :

What is the value of $\{\sin (90 - x) \cos [-(x - y)]\} + \{\cos (90 - x) \sin [-(y - x)]\}$?

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Difficulty : Moderate

Average Time : 53 Seconds

Average Time : 59 Seconds

Options :

- 1. -cos y
- 2. -sin y
- 3. cos x
- 4. tan y

Solution :

The correct answer is option 1 i.e. (-cos y)

```
\{\sin (90 - x) \cos [-(x - y)]\} + \{\cos (90 - x) \sin [-(y - x)]\}
```

```
-\cos x \cdot \cos (x - y) - \sin x \cdot \sin (x - y)
```

 $-\cos(x-x+y)$

– cos y

Question 55 :

The angle of elevation of an aeroplane from a point on the ground is 600. After flying for 30 seconds, the angle of elevation changes to 300. If the aeroplane is flying at a height of 4500 m, then what is the speed (in m/s) of aeroplane?

Difficulty : Moderate

Options :

- 1. 503
- 2. 1003
- 3. 2003
- 4. 3003

Solution :

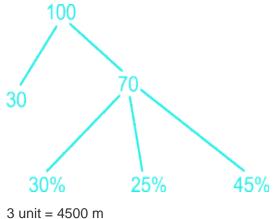
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The correct answer is option 2. i.e. 1003



2 unit = 3000 3 m

Speed of the airplane = $\frac{160}{2000} \times 100$

= 1003

Question 56 :

A kite is flying in the sky. The length of string between a point on the ground and kite is 420 m. The angle of elevation of string with the ground is 300. Assuming that there is no slack in the string, then what is the height (in metres) of the kite?

Difficulty : Moderate

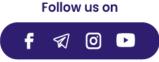
Options :

- 1. 210
- 2. 1403
- 3. 2103
- 4. 150

Solution :

The correct answer is option 1. i.e. 210

Average Time : 55 Seconds



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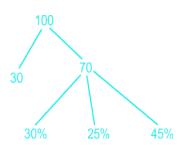
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Let the height of a kite be 'h' m

$$\text{Rate} = \frac{160}{2000} \times 100$$

$$\text{Rate} = \frac{160}{2000} \times 100$$

h = 210 m

Question 57:

A balloon leaves from a point P rises at a uniform speed. After 6 minutes, an observer situated at a distance of 4503 metres from point P observes that angle of elevation of the balloon is 60o. Assume that point of observation and point P are on the same level. What is the speed (in m/s) of the balloon?

Difficulty : Moderate

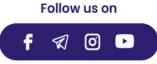
Average Time : 59 Seconds

Options :

- 1. 4.25
- 2. 3.75
- 3. 4.5
- 4. 3.45

Solution :

The correct answer is option 2. i.e. 3.75



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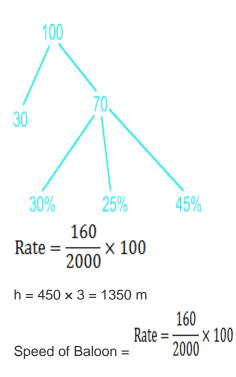
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= 3.75 metre/second

Question 58 :

The table given below shows the information about bats manufactured by 6 different companies. Each company manufactures only plastic and wooden bats. Each company labels these bats as Brand A or Brand B. The table shows the number of plastic bats as a percentage of total bats manufactured by each company. It also shows the ratio of wooden bats labeled A and B. Each company manufactured a total of 550000 bats. Company Plastic bats Brand A : Brand B R 55% 21 : 4 S 70% 8 : 7 T 45% 6 : 19 U 75% 41 : 14 V 60% 7 : 15 W 40% 5 : 6 What is the total number of wooden bats of brand A manufactured by company T?

Difficulty : Moderate

Options:

- 1. 23420
- 2. 22990
- 3. 68920
- 4. 72600

Solution :

The correct answer is option 4. i.e 72600

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Average Time : 68 Seconds



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The total no. of wooden bats of brand A manufactured by company T.

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$$\text{Rate} = \frac{160}{2000} \times 100$$

= 6 × 55 × 220

= 72,600

Question 59 :

The table given below shows the information about bats manufactured by 6 different companies. Each company manufactures only plastic and wooden bats. Each company labels these bats as Brand A or Brand B. The table shows the number of plastic bats as a percentage of total bats manufactured by each company. It also shows the ratio of wooden bats labeled A and B. Each company manufactured a total of 550000 bats. Company Plastic bats Brand A : Brand B R 55% 21 : 4 S 70% 8 : 7 T 45% 6 : 19 U 75% 41 : 14 V 60% 7 : 15 W 40% 5 : 6 N = Wooden bats of Brand B manufactured by U. M = Total wooden bats manufactured by R and W together. What is the value of N/M?

Difficulty : Moderate

Options :

- 1. 0.043
- 2. 0.061
- 3. 0.125
- 4. 0.087

Solution :

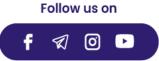
The correct answer is option 2. i.e. 0.061

$$Rate = \frac{160}{2000} \times 100$$
$$Rate = \frac{160}{2000} \times 100$$

= 577500

$$\text{Rate} = \frac{160}{2000} \times 100$$

Average Time : 64 Seconds



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Question 60 :

The table given below shows the information about bats manufactured by 6 different companies. Each company manufactures only plastic and wooden bats. Each company labels these bats as Brand A or Brand B. The table shows the number of plastic bats as a percentage of total bats manufactured by each company. It also shows the ratio of wooden bats labeled A and B. Each company manufactured a total of 550000 bats. Company Plastic bats Brand A : Brand B R 55% 21 : 4 S 70% 8 : 7 T 45% 6 : 19 U 75% 41 : 14 V 60% 7 : 15 W 40% 5 : 6 P = Sum of wooden bats of Brand B manufactured by S and wooden bats of Brand A manufactured by W. Q = Difference of Brand B wooden bats and Brand A wooden bats manufactured by U. What is the value P - Q?

Difficulty : Moderate

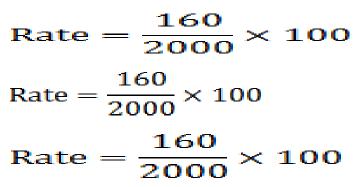
Average Time : 73 Seconds

Options :

- 1. 67500
- 2. 177700
- 3. 159500
- 4. 123500

Solution :

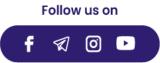
The correct answer is option 3. i.e. 1,59,500



P - Q = 227000 - 67500 = 1,59,500

Question 61 :

The table given below shows the information about bats manufactured by 6 different companies. Each company manufactures only plastic and wooden bats. Each company labels these bats as Brand A or Brand B. The table shows the number of plastic bats as a percentage of total bats manufactured by each company. It also shows the ratio of wooden bats labeled A and B. Each company manufactured a total of 550000 bats. Company Plastic bats Brand A : Brand B R 55% 21 : 4 S 70% 8 : 7 T 45% 6 : 19 U 75% 41 : 14 V 60% 7 : 15 W 40% 5 : 6 Taking all 6 companies together, how many wooden bats of Brand A have been produced?



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Difficulty : Moderate

Average Time : 66 Seconds

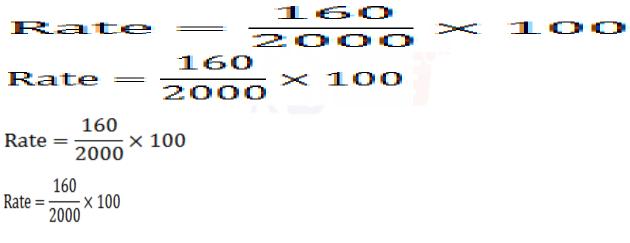
Options :

- 1. 691000
- 2. 724000
- 3. 683000
- 4. 716000

Solution :

The correct answer is option 1. i.e. 691000

Total wooden bats of Brand A



= 691000

Question 62 :

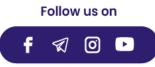
The table given below shows the information about bats manufactured by 6 different companies. Each company manufactures only plastic and wooden bats. Each company labels these bats as Brand A or Brand B. The table shows the number of plastic bats as a percentage of total bats manufactured by each company. It also shows the ratio of wooden bats labeled A and B. Each company manufactured a total of 550000 bats. Company Plastic bats Brand A : Brand B R 55% 21 : 4 S 70% 8 : 7 T 45% 6 : 19 U 75% 41 : 14 V 60% 7 : 15 W 40% 5 : 6 X = Average of plastic bats manufactured by V, U and T. Y = Wooden bats of Brand A manufactured by V. What is the value X – Y?

Difficulty	:	Moderate
------------	---	----------

Options :

1. 197600

Average Time : 75 Seconds



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- 432890
- 3. 260000
- 4. 293300

Solution :

The correct answer is option 3. i.e. 260000

$$\text{Rate} = \frac{160}{2000} \times 100$$

 $Rate = \frac{160}{2000} \times 100$

= 330000

$$\text{Rate} = \frac{160}{2000} \times 100$$

x - y = 330000 - 70000

x - y = 2,60,000

Question 63:

A drum contains 80 litres of ethanol. 20 litres of this liquid is removed and replaced with water. 20 litres of this mixture is again removed and replaced with water. How much water (in litres) is present in this drum now?

Difficulty : Moderate

Options:

- 1.45
- 2.40
- 3.35
- 4.44

Solution : The correct answer is option 3. i.e. 35.

Remaining water in the drum = 80 - 83

Average Time : 53 Seconds



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$$Rate = \frac{160}{2000} \times 100$$

 $= 80 - 5 \times 3 \times 3$

= 80 - 45

= 35 litre

Question 64 :

An alloy is made by mixing metal A costing Rs 2000/kg and metal B costing Rs 400/kg in the ratio A:B = 3:1. What is the cost (in Rs) of 8 kilograms of this alloy?

Difficulty : Moderate

Options:

- 1. 1600
- 2. 9800
- 3. 6400
- 4. 12800

Solution :

The correct answer is option 4. i.e. 12800

Rate = $\frac{100}{2000} \times 100$ Price of 1 kg of this alloy =

= Rs.1600

Price of 8 kg = 8 × 1600 = Rs.12,800

Question 65:

A, B and C invest to start a restaurant. The total investment was Rs 3 lakhs. B invested Rs 50,000 more than A and C invested Rs 25,000 less than B. If the profit at the end of the year was Rs 14,400 then what is C's share of the profit (in Rs)?

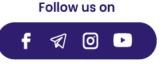
Difficulty : Moderate

Average Time : 47 Seconds

Average Time : 43 Seconds

Options :

1. 3600



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4800

- 3. 6000
- 4. 7200

Solution :

The correct answer is option 2. i.e. 4800

Total investment = 3,00,000

B = A + 50,000

C = B - 25000 = A + 25000

A + B + C = 3,00,000

A + A + 50,000 + A + 25,000 = 3,00,000

3A + 75,000 = 3,00,000

Rate = $\frac{160}{2000} \times 100$

A = 75,000

B = 1,25,000, C = 1,00,000

 $Rate = \frac{160}{2000} \times 100$ Share of C =

Share of C = 4800

Question 66 :

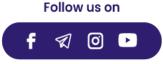
Two businessmen A and B invest in a business in the ratio 5 : 8. They decided to reinvest 30% of the profit they earned back into the business. The remaining profit they distributed amongst themselves. If A's share of the profit was Rs 87,500 then how much profit (in Rs) did the business make?

Difficulty : Moderate

Options :

- 1. 227000
- 2. 250000
- 3. 375000

Average Time : 59 Seconds



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325000

Solution :

The correct answer is option 4. i.e. 3,25,000

Let total profit = x

Share of A = Rs.87,500

$$\text{Rate} = \frac{160}{2000} \times 100$$

x = Rs.3,25,000

Question 67:

Working alone A can do the task in 27 hours and B can do it in 54 hours. Find C's share (in Rs) if A, B and C get paid Rs 4,320 for completing a task in 12 hours on which they worked together.

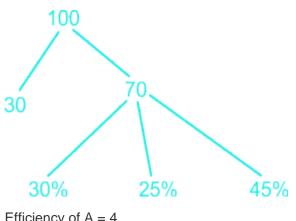
Difficulty : Moderate

Options:

- 1. 1440
- 2.960
- 3. 1920
- 4. 1280

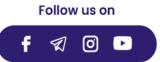
Solution :

The correct answer is option 1 i.e. 1440.



Efficiency of A = 4

Average Time : 45 Seconds



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Efficiency of B = 2

Efficiency of C = 9 - (4 + 2) = 3

9 units = 4320

Hence,

Share of C = 3 units = $\frac{Rate}{2000} \times 100 = 1440$

Question 68 :

If A had worked alone he would have taken 63 hours to do the task. What is B's share, if A and B work together on a task finishing it in 36 hours and they get paid Rs 5,950 for it?

Difficulty : Moderate

Options :

- 1. 3400
- 2. 3600
- 3. 2550
- 4. 2750

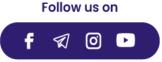
Solution :

The correct answer is option 3. i.e. 2550

Question 69 :

Working together A, B and C can complete a task in 12 days. A and B can do the task in 55 days and 66 days respectively if they worked alone. In how many days can C do the task if he worked alone?

Difficulty : Moderate	Average Time : 36 Seconds
Options : 1. 22	
2. 44	
3. 20	
4. 40	
Solution :	



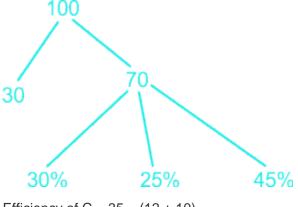
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Average Time : 54 Seconds



The correct answer is Option 3 i.e. 20



Efficiency of C = 35 - (12 + 10)

= 33

Question 70 :

B would have taken 10 hours more than what A would have taken to complete a task if each of them worked alone. Working together they can complete the task in 12 hours. How many hours would B take to do 50% of the task?

Difficulty : Moderate

Options :

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

Solution :

The correct answer is option 2. i.e. 15.

Time taken by A to complete a work = 't' hours

B will take = (t + 10) hrs.

$$\text{Rate} = \frac{160}{2000} \times 100$$

Average Time : 51 Seconds



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$$\text{Rate} = \frac{160}{2000} \times 100$$

$$t^2 - 14t - 120 = 0$$

t = 20

Time of A = 20 hrs., Time of B = 20 + 10 = 30 hrs.

160 Rate=—×100 To do 50% of task, B needs = 2000 = 15 hrs.

Question 71:

Giving two successive discounts of 20% is same as giving one discount of _____%.

Difficulty : Moderate

Options:

- 1.36
- 2.40
- 4.50

3.44

Solution :

The correct answer is option 1 i.e. 36

160 $Rate = \frac{100}{2000} \times 100 = 40 - 4 = 36\%$ Equivalent Discount = 20 + 20 -

Question 72:

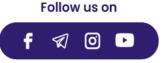
A retailer marks up his goods by 150% and offers a 40% discount. What will be the selling price (in Rs) if the cost price is Rs 800?

Difficulty : Moderate

Average Time : 39 Seconds

Options :

- 1. 1200
- 2. 1500
- 3. 1000



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Average Time : 60 Seconds





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2000

Solution :

The correct answer is option 1 i.e. 1200

Let cost price = 100 units

 $MP = Rate = \frac{160}{2000} \times 100 = 250 \text{ units}$

S.P. =
$$Rate = \frac{160}{2000} \times 100 = 150 \text{ units}$$

ATQ, 100 unit = Rs.800

SP = 150 unit = $Rate = \frac{160}{2000} \times 100$

= Rs.1200

Question 73 :

On a television of brand A the discount is 25% and on television of brand B the discount is 40%. The price of B after discount Rs 2,250 greater than the price of A after discount. What is the marked price of A (in Rs) if marked price of B is Rs 35,000?

Difficulty : Moderate

Options :

- 1. 18750
- 2. 21000
- 3. 25000
- 4. 17850

Solution :

The correct answer is option 3. i.e. 25000.

Let marked price of A = Rs.x

S.P. of A = \mathbb{M}

Market price of B = Rs.35,000

Average Time : 60 Seconds



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S.P. of B =
$$\frac{\text{Rate} = \frac{160}{2000} \times 100}{100} = 21,000$$

ATQ,

Rate =
$$\frac{160}{2000} \times 100$$
 = 2250

x = Rs.25,000

Question 74 :

If 60% discount is offered on the marked price and selling price becomes equal to cost price then what was the % mark up?

Difficulty : Moderate

Options :

- 1. 100
- 2. 250
- 3. 150
- 4. 40

Solution :

The correct answer is option 3 i.e. 150

Let M.P. be 100 units

S.P. =
$$Rate = \frac{160}{2000} \times 100 = 40$$
 units

ATQ,

C.P. = 40

% markup = $Rate = \frac{160}{2000} \times 100$

= 150%

Question 75 : If 3A = 6B = 9C; What is A : B : C

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Average Time : 54 Seconds



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Difficulty : Moderate

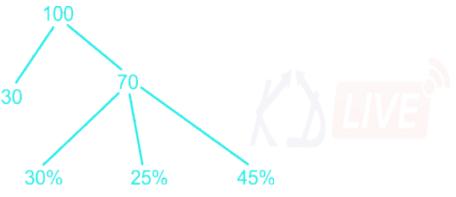
Average Time : 46 Seconds

Options :

- 1.6:3:1
- 2. 6:3:2
- 3. 9:3:6
- 4.9:3:1

Solution :

The correct answer is option 2. i.e. 6 : 3 : 2.



Question 76 :

How many job applicants had applied if the ratio of selected to unselected was 19:17. If 1,200 less had applied and 800 less selected, then the ratio of selected to unselected would have been 1:1.

Difficulty : Moderate

Options :

- 1. 6000
- 2. 7200
- 3. 8400
- 4. 4800

Solution :

The correct answer is option 2. i.e. 7200

Selected : Unselected = 19 : 17

Average Time : 38 Seconds



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Total = 36x

ATQ.

$$\text{Rate} = \frac{160}{2000} \times 100$$

x = 200

Total applicants = $36 \times 200 = 7200$

Question 77 :

What is the third proportional to 10 and 20?

Difficulty : Moderate

Options :

- 1. 30
- 2.25
- 3.50
- 4. 40

Solution :

The correct answer is option 4 i.e. 40

Let the third proportion be x

```
Rate = \frac{160}{2000} \times 100
```

x = 40

Question 78:

The ratio of the sum of the salaries of A and B to the difference of their salaries is 11:1 and the ratio of the sum of the salaries of B and C to the difference of their salaries is also 11:1. If A's salary is the highest and C's is the lowest then what is B's salary (in Rs) given the total of all their salaries is Rs 1,82,000?

Difficulty : Moderate

Average Time : 52 Seconds

Average Time : 38 Seconds

Options :

1. 72000



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60000

- 3. 50000
- 4. 86400

Solution :

The correct answer is option 2. i.e.60,000

$$\text{Rate} = \frac{160}{2000} \times 100$$

Apply C & D

$$\text{Rate} = \frac{160}{2000} \times 100$$

A : B : C = 36 : 30 : 25

9/x = 1,82,000

x = 2,000

Salary of B = Rs.60,000

Question 79 :

If by increasing the price of a ticket in the ratio 8:11 the number of tickets sold fall in the ratio 23:21 then what is the increase (in Rs) in revenue if revenue before increase in price of ticket was Rs 36,800?

Difficulty : Moderate

Options :

- 1. 21250
- 2. 9400
- 3. 7850
- 4. 12850

Solution : The correct answer is option 2. i.e.9400

Ratio of price of ticket = 8:11

Average Time : 51 Seconds



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Ratio of numbers of ticket = 23 : 21

Ratio of revenues = 184 : 231

As Given,

184x = 36,800

x = 200

Increase in revenue = 47 units

 $= 47 \times 200$

= Rs.9400

Question 80:

The ratio of ages of the father and mother was 11:10 when their son was born. The ratio of ages of the father and mother will be 19:18 when the son will be twice his present age. What is the ratio of present ages of father and mother?

Difficulty : Moderate

Options:

- 1. 15:14
- 2. 14:13
- 3. 16:15
- 4. 17:16

Solution :

The correct answer is option 1. i.e. 15 : 14

When son was born

Ratio of ages of father & mother = 11 : 10

Present age of son = x

Son will be twice of age in x years

ATQ.

19 - 11 = 2x = 18 - 10

x = 4

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Average Time : 48 Seconds



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Present age of father = 11 + 4 = 15

Present age of mother = 10 + 4 = 14

Ratio = 15 : 14

Question 81 :

Of the 3 numbers whose average is 22, the first is 3/8th the sum of other 2. What is the first number?

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ction focused courses.

Difficulty : Moderate Average Time : 45 Seconds Options: 1.16 2. 20 3. 22 4. 18 Solution : The correct answer is option 4. i.e. 18 Rate = $\frac{160}{2000} \times 100$ A + B + C = 66 (i) Given Rate = $\frac{160}{2000} \times 100$ (ii) From eqn. (i) & (ii) Rate = $\frac{160}{2000} \times 100$ $11A = 66 \times 3$

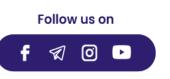
 $A = 6 \times 3 = 18$

Question 82 :

The average of three consecutive odd numbers is 52 more than 1/3rd of the largest of these numbers. What is the smallest of these numbers?

Difficulty : Moderate

Average Time : 61 Seconds



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Options :

- 1. 79
- 2. 75
- 3. 81
- 4. 77

Solution :

The correct answer is option 4. i.e.77.

Let three consecutive odd numbers = a, a + 2, a + 4

Rate
$$=\frac{160}{2000} \times 100$$

3a + 6 = (a + 4) + 156

a = 77

Question 83 :

A batsman scores 98 runs in the 17th match of his career. His average runs per match increased by 2.5. What is his average before the 17th match?

Difficulty : Moderate

Options :

- 1. 58
- 2. 60.5
- 3. 63
- 4. 55.5

Solution :

The correct answer is option 4. i.e.55.5

Let average before the 17th Match = x

ATQ,

16x + 98 = 17 (x + 2.5)

x = 55.5

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Average Time : 41 Seconds



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Question 84:

What is the average of all numbers between 100 and 200 which are divisible by 13?

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Difficulty : Moderate

Options :

- 1. 147.5
- 2. 145.5
- 3. 143.5
- 4. 149.5

Solution :

The correct answer is option 4. i.e. 149.5

Nos b/w 100 & 200 which are divisible by 13

104, 117, 195

No. of terms =
$$Rate = \frac{160}{2000} \times 100$$

N = 8

$$Average = Rate = \frac{160}{2000} \times 100$$

Question 85:

A vendor buys bananas at 9 for Rs 8 and sells at 8 for Rs 9. What will be the profit or loss (in %)?

Difficulty : Moderate

Options :

- 1. 13.28% profit
- 2. 26.56% loss
- 3. 26.56% profit
- 4. 13.28% loss

Solution :

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Follow us on Ø Average Time: 47 Seconds

Average Time : 33 Seconds

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The correct answer is option 3 i.e. 26.56% profit

CP = 8 (for 9 bananas)

SP = 9 (for 8 bananas)

 $\mathsf{Profit}~\% = \mathsf{Rate} = \frac{160}{2000} \times 100$

= 26.56% profit

Question 86 :

If a stall sells a pizza at Rs 200 he makes 20% loss if he wants to make 10% profit then at what price (in Rs) should he sell?

Difficulty : Moderate

Average Time : 54 Seconds

Options :

- 1. 250
- 2. 300
- 3. 275
- 4. 325

Solution :

The correct answer is option 3. i.e.275.

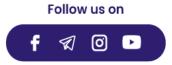
Rate
$$=\frac{160}{2000} \times 100$$

Now to get 10% profit

$$\text{Rate} = \frac{160}{2000} \times 100$$

 $\text{Rate} = \frac{160}{2000} \times 100$





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= 25 × 11 = Rs.275

Question 87 :

A wholesaler had 200 dozens of mangoes. He sold some of these mangoes at 20% profit and the rest at 10% profit, so that he made 13% profit on selling all the mangoes. How many mangoes (in dozens) did he sell at 20% profit?

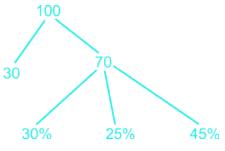


Options :

- 1. 140
- 2. 60
- 3.80
- 4. 120

Solution :

The correct answer is option 2. i.e.60.



10 unit = 200 Dozen Mangoes

3 unit = 60 Dozen Mangoes

Question 88 :

If the selling price is tripled and cost price doubled the profit would become 65%. What is the present profit (in %)?

Difficulty : Moderate

Options :

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

Average Time : 38 Seconds

Average Time : 52 Seconds

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Solution :

The correct answer is option 4 i.e. 10

Rate $=\frac{160}{2000} \times 100$ $\text{Rate} = \frac{160}{2000} \times 100$ 60SP - 40 CP = 26 CPRate = $\frac{160}{2000} \times 100$ Now, Present profit % = $Rate = \frac{160}{2000} \times 100$ $Rate = \frac{160}{2000} \times 100$ = 10%**Question 89:** 0.06% of 250% of 1600 is **Difficulty : Moderate** Average Time : 54 Seconds **Options**: 1. 24 2. 0.24

- 3. 0.024
- 4. 2.4

Solution :

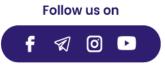
The correct answer is option 4 i.e. 2.4

0.06% of 250% of 1600

$$\text{Rate} = \frac{160}{2000} \times 100$$

Question 90:

Two numbers are 90% and 75% lesser than a third number. By what % should the first number be increased so that it



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becomes equal to the second number?

Difficulty : Moderate

Options :

- 1. 250
- 2. 200
- 3. 150
- 4. 100

Solution :

The correct answer is **option 3** i.e. **150**

let 3rd number = 100x

First number = 10x

Second number = 25x

Required %age = $Rate = \frac{160}{2000} \times 100$

= 150%

Question 91 :

When a number is increased by 216, it becomes 140% of itself. What is the number?

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Difficulty : Moderate

Options :

- 1. 540
- 2. 756
- 3. 450
- 4. 675

Solution : The correct answer is option 1 i.e. 540

Let the number be x

Average Time : 40 Seconds

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Average Time : 40 Seconds





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ATQ.

 $x \times 140/100 = x + 216$

(14x/10) - x = 216

0.4x = 216

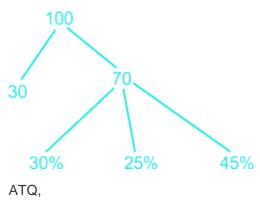
x = 540

Question 92:

A man donates 30% of his wealth to charity. 30% and 25% of the remaining wealth to his wife and son respectively. The rest he divides equally between his three daughters. One of his daughter gets Rs 42 lakh as her share. What was the man's wealth (in Rs lakhs)?

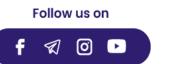
Difficulty : Moderate	Average Time : 46 Seconds
Options : 1. 280	
2. 400	
3. 500	
4. 350	
Solution : The correct answer is option 2 i.e. 400	

Let the wealth be 100 unit



45% of 70 = 3 × 42

 $100 \text{ unit} = \text{Rate} = \frac{160}{2000} \times 100$



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Wealth of man = Rs.400 lakhs

Question 93 :

A bus travels 720 km in 20 hours. Calculate its average speed in meters/second.

Difficulty : Moderate

Average Time : 46 Seconds

Options :

- 1. 12
- 2. 15
- 3. 18
- 4. 10

Solution :

The correct answer is option 4. i.e.10

Speed = $\frac{10}{10}$ = 36 km/hr

Speed in m/s =
$$\frac{Rate}{2000} \times 100$$

= 10 m/s

Question 94 :

If a boat goes upstream at a speed of 21 km/h and comes back the same distance at 28 km/h. What is the average speed (in km/hr) for the total journey?

Difficulty : Moderate

Options :

- 1. 24.5
- 2. 24
- 3. 25
- 4. 25.4
- Solution :

The correct answer is option 2. i.e.24.

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Average Time : 46 Seconds



Average speed =
$$Rate = \frac{160}{2000} \times 100$$
$$Rate = \frac{160}{2000} \times 100$$
$$Rate = \frac{160}{2000} \times 100$$

Question 95 :

Two runners A and B start running at 12 km/hr and 16 km/hr towards each other. They meet after 1 hour and 30 minutes. How far (in km) were they from each other when they started?

Difficulty : Moderate

Options :

- 1. 42
- 2. 36
- 3. 40
- 4. 45

Solution :

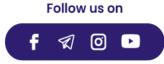
The correct answer is Option 1 i.e.42

Rate = $\frac{160}{2000} \times 100$ = Distance [Relative speed concept]

Distance = 42 km

Question 96 :

Flight A usually takes 1 hour more than Flight B to travel a distance of 7200 km. Due to engine trouble speed of flight B falls by a factor of 1/6th, so it takes 36 minutes more than Flight A to complete the same journey? What is the speed of Flight A (in km/hr)?



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Average Time : 51 Seconds



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Difficulty : Moderate

Average Time : 46 Seconds

Options :

- 1.800
- 2.900
- 3. 750
- 4. 720

Solution :

The correct answer is option 1 i.e. 800

Let the time taken by B = x

Rate
$$=\frac{160}{2000} \times 100$$
(i)

ATQ.

 $Rate = \frac{160}{2000} \times 100$(ii)

From eqn (i) & (ii)

Rate $=\frac{160}{2000} \times 100$

x = 8

Speed of A = $\frac{1}{2} = \frac{1}{2} = \frac$

Question 97:

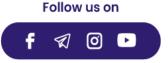
In how many years will Rs 2,000 yield Rs 662 as compound interest at 10% per annum compounded annually?

Difficulty : Moderate

Average Time : 58 Seconds

Options:

- 1.3
- 2. 2



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- 4
- 4.5

Solution :

The correct answer is option 1. i.e. 3.

Let time = t years

Rate =
$$\frac{160}{2000} \times 100$$

Rate = $\frac{160}{2000} \times 100$
Rate = $\frac{160}{2000} \times 100$
Rate = $\frac{160}{2000} \times 100$

Question 98:

What is the compound interest earned on Rs 80,000 at 40% per annum in 1 year compounded quarterly?

Difficulty : Moderate

Options:

- 1. 28317
- 2. 37128
- 3. 18732
- 4. 21387

Solution :

The correct answer is option 2. i.e.37128.

Compound Interes

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Rate =
$$\frac{160}{2000} \times 100$$





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Average Time : 50 Seconds



$$\text{Rate} = \frac{160}{2000} \times 100$$

= Rs.37128

Question 99 :

An investor invested his saving in the stock market. The value of his investments increased by 12% and 9% in the first year and the second year respectively. If the value of his investments after two years became Rs 97,664 then how much had he invested (in Rs)?

Difficulty : Moderate

Options :

- 1. 81000
- 2. 75000
- 3. 80000
- 4. 72000

Solution :

The correct answer is option 3. i.e.80,000

Let the invested money = Rs.x

ATQ,

$$\text{Rate} = \frac{160}{2000} \times 100$$

$$\text{Rate} = \frac{160}{2000} \times 100$$

x = 80,000

Question 100 :

What is the rate of interest (in %) if simple interest earned on a certain sum for the 3 years is Rs 6,000 and compound interest earned for 2 years is Rs 4,160?

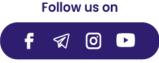
Difficulty : Moderate

Options :

() IIVE

Average Time : 45 Seconds

Average Time : 48 Seconds



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- 9
- 2.8
- 3. 12
- 4.6

Solution :

The correct answer is option 2 i.e. 8

S.I. for 3 yrs. = Rs.6000

S.I. for 2 yrs. = Rs.4000

S.I. for 2nd year = Rs.2000

CI for 2nd years = Rs.2160

$$\text{Rate} = \frac{160}{2000} \times 100$$

Rate = 8%

Ssc Cgl Tier II Previous Year Question Paper Analysis

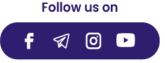
The analysis of Ssc Cgl Tier II Previous Year Question Paper held on 2018-02-20 in the Morning exam is as follows:

- 1. 100 questions were moderate.
- 2. The safe score is 150 marks.
- 3. 100 questions were asked from Quantitative Aptitude and 100 questions were asked from Quantitative Aptitude
- 4. 0 questions should have been skipped if you were short of time.

Ssc Cgl Tier II Previous Year Question Paper Topic Wise Weightage

Quantitative Aptitude

- 1. Percentage 2
- 2. Ratios And Proportion 1



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Geometry - 24

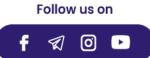
- 4. Trigonometry 4
- 5. Mensuration 4
- 6. Profit And Loss 65

Ssc Cgl Tier II Previous Year Question Paper Tips and Tricks



- 1. Try to solve Ssc Cgl Tier II Previous Year Question Paper without taking any help from the solutions.
- 2. Ssc Cgl Tier II Previous Year Question Paper require proper usage of concept so firstly read the question thoroughly and then use the right concept.
- 3. In case you're not able to solve the question in less than 30 seconds in the exam then you should skip the question and move to the next question.

Daily Current Affairs



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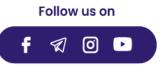
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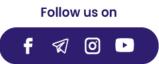
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About Neetu Mam

Neetu Mam is primarily passionate for the English language and teaching from the last 20 years however for the Ssc Cgl Tier II Previous Year Question Paper. She has guided her team to provide the best explanation for the question.



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