SSC CGL (Held On 3 Dec 2022 Shift 2) Math Paper

Question No. 1

In an equilateral triangle ABC, D is the midpoint of side BC. If the length of BC is 8 cm, then the height of the triangle is: 5.5 cm 4.5 cm $6\sqrt{3} \text{ cm}$ $\checkmark 4\sqrt{3} \text{ cm}$

Question No. 2

A thief steals a bike at 12:30 p.m. and drives it at 48 km/h. But the theft is discovered after half an hour. The bike owner starts to chase him on another bike at 58 km/h. The thief will be caught at _____.

3:40 p.m.

3:54 p.m.

3:10 p.m.

✓ 3:24 p.m

Question No. 3

If \triangle ABC \sim \triangle FDE such that AB = 9 cm, AC = 11 cm, DF = 16 cm and DE = 12 cm, then the length of BC is:

 $5\frac{3}{4}$ cm

 $4\frac{3}{5}$ cm

 $3\frac{5}{7}$ cm

 $\checkmark 6\frac{3}{4}$ cm

Question No. 4

If $X + \frac{1}{X} = 2 \cos \theta$, then $X^3 + \frac{1}{X^3} = ?$

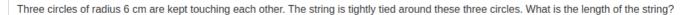
 $2\cos 2\theta$

 $\cos 3\theta$

 \checkmark 2 cos 3 θ

 $\cos 2\theta$

Question No. 5



✓ 36 + 12π cm

 $36 + 18\pi \text{ cm}$

 $24 + 36\pi$ cm

 $36 + 20\pi \text{ cm}$

Question No. 6

If
$$X=3+2\sqrt{2}$$
 , x > 0, then the value of $\sqrt{X}-\frac{1}{\sqrt{X}}$ is:

1

 $\sqrt{2}$

V 2

 $2\sqrt{2}$

Question No. 7

tan (θ - 4π) is equal to:

✓ tanθ

-cotθ

cotθ

-tanθ

Question No. 8

What will be the remainder when 7^{42} is divided by 48?

2

3

~ :

0

Question No. 9

The cost of a piece of diamond varies with the square of its weight. A diamond of Rs. 6,084 value is cut into 3 pieces whose weights are in the ratio 3:2:1. Find the loss involved in the cutting.

Rs. 3,768

✓ Rs. 3,718

Rs. 3.168

Rs. 3,518

Question No. 10

The marked price of an article is Rs. 10,927. Due festive season, a certain percentage of discount is declared. Raju buys an article at a reduced price and sells it at Rs. 10,927, and makes a profit of 11.5%. What was the percentage discount offered?

✓ 10.3% 11.3% 11.5% 10.9%

Question No. 11

If x - y = 1 and $x^2 + y^2 = 41$ where $x, y \ge 0$, then the value of x + y will be:

9

8

6

7

Question No. 12

 $\Delta XYZ \sim \Delta GST$ and XY : GS = 2 : 3, XV is the median to the side YZ, and GD is the median to the side ST. The value of $(\frac{YV}{SD})^2$ is



3

4

2