Expected Quant Questions for SSC CHSL 2020 PDF

For the following questions answer them individually

Question 1

If $\frac{\sin\theta}{1+\cos\theta} + \frac{1+\cos\theta}{\sin\theta} = \frac{4}{\sqrt{3}}, 0° < \theta < 90°$, then the value of $(\tan\theta + \sec\theta)^{-1}$ is:

A $\quad 2 - \sqrt{3}$

B $\quad 3 - \sqrt{2}$

C $\quad 2 + \sqrt{3}$

D $\quad 3 + \sqrt{2}$

Answer: A

Question 2

P and Q are two points on the ground on either side of a pole. The angles of elevation of the top of the pole as observed from P and Q are $60°$ and $30°$, respectively and the distance between them is $84\sqrt{3}$ m. What is the height (in m) of the pole?

A $\quad 63$

B $\quad 73.5$

C $\quad 52.5$

D $\quad 60$

Answer: A

Question 3

A man can row a distance of 900 metres against the stream in 12 minutes and returns to the starting point in 9 minutes. What is the speed (in km/h) of the man in still water?

A $\quad 4\frac{1}{2}$

B $\quad 6$

C $\quad 5\frac{1}{4}$

D $\quad 5$

Answer: C

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Question 4

Walking at 60% of his usual speed, a man reaches his destination 1 hour 40 minuteslate, His usual time (in hours) to reach the destination is:

A $\quad 2\frac{1}{2}$

B $\quad 2\frac{1}{4}$

C $\quad 3\frac{1}{8}$

D $3\frac{1}{4}$

  Answer: A

Question 5

25 persons can complete a work in 60 days. They started the work. 10 persons left the work after x days. If the whole work was completed in 80 days, then what is the value of x ?

A 9

B 8

C 12

D 15

  Answer: C

Question 6

A person covers 40% of the distance from A to B at 8 km/h, 40% of the remaining distance at 9 km/h and the rest at 12 km/h. His average speed (in km/h) for the journey is:

A $9\frac{5}{8}$

B $9\frac{2}{3}$

C $9\frac{3}{8}$

D $9\frac{1}{3}$

  Answer: C

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Question 7

A sum is divided among A, B, C and D such that the ratio of the shares of A and is 2 : 3, that of B and C is 1 : 2 and that of C and D is 3 : 4. If the difference between the shares of A and is ₹648, then the sum of their shares is:

A ₹2,052

B ₹2,160

C ₹2,484

D ₹1,944

  Answer: A

Question 8

A, B and C started a business, Thrice the investment of A is equal to twice the investment of B and also equal to four times the investment of C, If C's share out of the total profit is ₹4,863, then the share of A in the profit is:

A ₹7,272

B ₹6,484

C ₹9,726

D ₹8,105

Answer: B

Question 9

In a 100m race 64 A beats B by 10 mand B beats C by 10 m. By what distance does A beat C (in m)?

A 19

B 18

C 20

D 21

Answer: A

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Question 10

If $x^4 + 2x^3 + ax^2 + bx + 9$ is a perfect square, where a and b are positive real numbers,then the value of a and b are

A a = 5, b = 6

B a = 6, b = 7

C a = 7, b = 6

D a = 7, b = 8

Answer: C

Question 11

If the selling price of an article is 32% more than its cost price and the discount offered on its marked price is 12%, then what is the ratio of its cost price to the marked price?

A 4 : 5

B 3 : 8

C 2 : 3

D 1 : 2

Answer: C

Question 12

Sudha bought 80 articlesat the same price. She sold some of them at 8% profit and the remaining at 12% loss resulting in an overall profit of 6%. The mimber of items sold at 8% profit is:

A 64

B 60

C 72

D 70

    Answer: C

Question 13

Two positive numbers differ by 2001, When the larger number is divided by the smaller number, the quotient is 9 and the remainder is 41. The sum of the digits ofthe larger number is:

A 15

B 11

C 10

D 14

    Answer: D

Question 14

The average of 18 numbers is 37.5. If six numbers of average X are added to them, then the average of all the numbers increases by one, The value of x is:

A 40

B 41.5

C 42

D 38.5

    Answer: B

Explanation:

Sum of the 18 numbers = 37.5 $\times 18 = 675$

($\because$ average = $\frac{sum of total terms}{number of terms}$)

Sum of the 6 numbers = $6 \times X = 6X$

Average of all the numbers = 37.5 + 1 = 38.5

$$\frac{675+6X}{24} = 38.5$$

675 + 6X = 24 $\times$ 38.5

6X = 924 - 675 = 249

X = 41.5

Question 15

5 years ago, the ratio of the age of A to that of B was 4 : 5. Five years hence, the ratio of the age of A to that of B will be 6 : 7. If, at present, C is 10 years younger than B, then what will be the ratio of the present age of A to that of C?

A 3 : 2

B 5 : 4

C 4 : 3

D 5 : 3

Answer: B