Quant Mega Quiz for SSC CGL Tier - 2

Q1. If a train runs with the speed of 78 km/hr, it reaches its destination late by 25 minutes. However, if its speed is 91 km/hr, it is late by 10 minutes only. The right time for the train to cover it journey is –

(a) 60 minutes
(b) 80 minutes
(c) 75 minutes
(d) 92 minutes

Q2. The efficiencies of A, B and C are in the ratio 7 : 6 : 9. Working together, they can complete a piece of work in 135 days. In how many days will, C alone be able to complete 65% of that work?

(a) $202\frac{3}{5}$ days
(b) $214\frac{1}{2}$ days
(c) $197\frac{1}{2}$ days
(d) 211 days

Q3. The length of shadow of a vertical pole on the grand is 36 m. if the angle of elevation of the sun at that time is θ, such that $\sin\theta = \frac{5}{13}$, then what is height of the pole?

(a) 10 m
(b) 12 m
(c) 18 m
(d) 15 m

Q4. If the seven digit number 3x6349y is divisible by 88, then what will be the value of (x+y)?

(a) 15
(b) 13
(c) 17
(d) 14

Q5.

If $(x-4)^3 + (3x-7)^3 + (x-2)^3 = 3(x-4)(3x-7)(x-2)$
find the value of x.

(a) 2.6
(b) 4.2
(c) 3.8
(d) 6.1

Q6.

$\frac{72.5\times72.5\times72.5+27.5\times27.5\times27.5}{7.25\times7.25+2.75\times2.75-7.25\times2.75}$ is equal to –

(a) 10,000
(b) 1000
(c) 10
(d) 100000

Q7. One side of a rhombus is 6.5 cm and one of its diagonal is 12 cm. what is the area of rhombus?

(a) 20
(b) 30
(c) 35
(d) 40

Q8. If the income of A is 27% less than income of B, then what percentage of B's income is more then that of A?

(a) 42.85%
(b) 36.98%
(c) 61.23%
(d) 49.27%

Q9. The price of sugar is increased by 12%. By what percentage, there should be decrease in consumption so then there is no change in expenditure?

(a) 10.7%
(b) 11.4%
(c) 13.2%
(d) 12.6%

Q10. In Δ ABC, ∠A = 35°, AB and AC are produced to points D and E respectively. If the bisectors of ∠CBD and ∠BCE Meet at the point O, then ∠BOC is equal to –

(a) 72.5°
(b) 67°
(c) 69°
(d) 70°

Q11. If $3(a^2+b^2+c^2) = (a+b+c)^2$, then the relation between a, b and c is

(a) $a\neq b=c$
(b) $a=b=c$
(c) $a\neq b\neq c$
(d) $a=b\neq c$

Q12. A car covers four successive 7 km distances at speeds of 10 km/hour, 20 km/hour ,30 km/hour and 60 km/hour respectively, Its average speed over this distance is

(a) 40 km/hour
(b) 20 km/hour
(c) 60 km/hour
(d) 30 km/hour

Q13. A cylinder with base radius 8 cm and height 2 cm is melted to form a cone of height 6 cm. The radius of the cone will be

(a) 6 cm
(b) 5 cm
(c) 4 cm
(d) 8 cm

Q14. A dealer fixed the price of an article 40% above the cost of production. While selling it he allows a discount of 20% and makes a profit of Rs 48. The cost of production (in Rs) of the article is

(a) 420
(b) 360
(c) 400
(d) 320

Q15. Average of n numbers is a. The first number is increased by 2, seconds one is increased by 4, the third one is increased by 8 and so on. The average of the new number is

(a) $a + 2\frac{2^n - 1}{n}$
(b) $a + \frac{2^n - 1}{n}$
(c) $a + 2\frac{2^n + 1}{n}$
(d) $a + \frac{2^{n+1} - 1}{n}$

Q16. If x=a sinθ – b cos θ, y = a cosθ +b sinθ, then which of the following is true?

(a) $x^2 + y^2 = a^2 + b^2$
(b) $\frac{x^2}{y^2} + \frac{a^2}{b^2} = 1$
(c) $x^2 + y^2 = a^2 - b^2$
(d) $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$

Q17.

Let $x = \frac{\sqrt{13}+\sqrt{11}}{\sqrt{13}-\sqrt{11}}$ and $y = \frac{1}{x}$, then the value of $3x^2 - 5xy + 3y^2$ is

(a) 1717
(b) 1771
(c) 1171
(d) 1177

Q18. If 64 buckets of water are removed from a cubical shaped water tank completely filled with water, ⅓ of the tank remains filled with water. The length of each side of the tank is 1.2 m. Assuming that all buckets are of the same measures then the volume (in litres) of water contained by each bucket is
(a) 16
(b) 18
(c) 12
(d) 15

Q19. In trapezium ABCD, AB || CD and AB = 2CD. Its diagonals intersect at O. If the area of Δ AOB = 84 cm^2, then the area of Δ COD is equal to
(a) 42 cm^2
(b) 21 cm^2
(c) 72 cm^2
(d) 26 cm^2

Q20. Water tax is increased by 20% but its consumption is decreased by 20%. Then the increase of decrease in the expenditure of the money is
(a) 5% decrease
(b) 4% decrease
(c) No change
(d) 4% increase

Q21. If A borrowed Rs. P at x% and B borrowed Rs. Q (>P) at y% per annum at simple interest at the same time, then the amount of their debts will be equal after
(a) $100\left(\frac{Q-P}{Px-Qy}\right)$ years
(b) $100\left(\frac{Px-Qy}{Q-P}\right)$ years
(c) $100\left(\frac{Px-Qy}{P-Q}\right)$ years
(d) $100\left(\frac{P-Q}{Px-Qy}\right)$ years

Q22. A man invested a sum of money at compound interest. It amounted to Rs. 2420 in 2 years and to Rs. 2662 in 3 years. Find the sum.
(a) Rs. 1000
(b) Rs. 2000
(c) Rs. 5082
(d) Rs. 3000

Q23. If a sum of money becomes 4000 in 2 yrs and 5500 in 4 yrs 6 months at the same rate of simple interest per annum. Then the rate of simple interest is
(a) $21\frac{3}{7}\%$
(b) $21\frac{2}{7}\%$
(c) $21\frac{1}{7}\%$
(d) $21\frac{5}{7}\%$

Q24. A hollow cylindrical tube 20 cm long is made of iron and its external and internal diameters are 8 cm and 6 cm respectively. The volume (in cubic cm) of iron in making the tube is (Take n = 22/7)

(a) 1760
(b) 440
(c) 220
(d) 880

Q25. If the areas of three adjacent faces of a rectangular box which meet in a corner are 12 cm^2, 15 cm^2 and 20 cm^2 respectively. Then the volume of the box is

(a) 3600 cm^3
(b) 300 cm^3
(c) 60 cm^3
(d) 180 cm^3

Q26. The ratio between the length and the breadth of a rectangular park is 3 : 2. If a man cycling along the boundary of the park at the speed of 12 km/hour completes one round in 8 minutes, then the area of the park is

(a) 153650 m^2
(b) 135600 m^2
(c) 153600 m^2
(d) 156300 m^2

Q27. If the radius of a right cylinder open at both the ends, is decreased by 25% and the height of the cylinder is increased by 25%. Then the curved surface area of the cylinder thus formed

(a) remains unaltered
(b) is increase by 25%
(c) is increase by 6.25%
(d) is decreased by 6.25%

Q28. A cylindrical pencil of diameter 1.2 cm has one of its end sharpened into a conical shape of height 1.4 cm. The volume of the material removed is

(a) 1.056 cm^3
(b) 4.224 cm^3
(c) 10.56 cm^3
(d) 42.24 cm^3

Q29. A rectangular park 60 m long and 40 m wide has two concrete crossroads running in the middle of the park and rest of the park has been used as a lawn. If the area of the lawn is 2109 m^2 then the width of the road is

(a) 3 m
(b) 5 m
(c) 6 m
(d) 2 m

Q30. Four circles of equal radii are described about the four corners of a square so that each touches two of the other circles. If each side of the square is 140 cm then area of the space enclosed between the circumference of the circle is (take n = 22/7)

(a) 4200 cm^2

(b) 2100 cm^2

(c) 7000 cm^2

(d) 2800 cm^2