## SEBI Grade A Quant

Q1. A pigeon gets 300 grams as daily diet having mixture of $X$ and $Y$. IF $X$ has $\mathbf{1 0 \%}$ protein and $Y$ has $15 \%$ protein and if pigeon gets daily 38 gm protein, find the quantity of $X$ in mixture.
(a) 150 gm
(b) 145 gm
(c) 130 gm
(d) 140 gm
(e) None of these

Q2. Three persons A, B and C start a business with Rs. 12800, Rs. 16800 and Rs. 9600 respectively. At the end of the year, $B$ received Rs. 13125 as share in total profit. What is the share of $C$ in the profit?
(a) Rs. 7850
(b) Rs. 7550
(c) Rs. 7500
(d) Rs. 8500
(e) None of these

Q3. A 180-metre long train crosses another 270-meter long train running in the opposite direction in 10.8 seconds. If the speed of the first train is $\mathbf{6 0} \mathbf{~ k m p h}$., what is the speed of the second train in kmph?
(a) 80
(b) 90
(c) 150
(d) Cannot be determined
(e) None of these

Q4. A bag contains 6 red balls and 8 green balls. Two balls are drawn at random one after one with replacement. What is the probability that both the balls are green?
(a) $13 / 49$
(b) $15 / 49$
(c) $16 / 49$
(d) $17 / 49$
(e) None of these

Q5. Capacity of a cylindrical vessel is 25.872 litres. If the height of the cylinder is three times the radius of its base, what is the area of the base?
(a) $616 \mathrm{~cm}^{2}$
(b) $612 \mathrm{~cm}^{2}$
(c) $600 \mathrm{~cm}^{2}$
(d) $588 \mathrm{~cm}^{2}$
(e) None of these


Direction (6-10): In the following questions, two equations numbered I and II are given. You have to solve both equations and give answer among the following options.
(a) if $x>y$
(b) if $x \geq y$
(c) if $x<y$
(d) if $x \leq y$
(e) if $x=y$ or the relationship cannot be established.

Q6. I. $x^{2}-5 \sqrt{3} x+18=0$
II. $y^{2}-3 \sqrt{3} y-30=0$

Q7. I. $6 x^{2}-23 x+21=0$
II. $3 y^{2}-46 y+91=0$

Q8. I. $\mathrm{x}^{\frac{3}{2}}+\mathrm{x}^{\frac{1}{2}}=2 \mathrm{x}^{-\frac{1}{2}}$
II. $y^{2}+7 y+10=0$

Q9. I. $x^{\frac{7}{2}}=2187$
II. $y^{\frac{3}{5}}=8$

Q10. I. $3 x+8 y=71$
II. $7 x+3 y=56$

Directions (11-15): The given bar graph shows the total no. of students of 5 different schools and no. of boys from each school.

Study the graph carefully and answer the following questions.


Q11. What is the ratio between no. of boys of school B and no. of girls of school C?
(a) $4: 3$
(b) $1: 1$
(c) $5: 4$
(d) $3: 4$
(e) $4: 5$

Q12. No. of girls of school B and C together is what percent of total students of school $A$ ?
(a) $150 \%$
(b) $125 \%$

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(c) $100 \%$
(d) $66.67 \%$
(e) $75 \%$

Q13. What is the average no. of boys in school $A, B, C$ and $E$ ?
(a) 1800
(b) 2250
(c) 2300
(d) 1950
(e) 2875

Q14. Girls in school A and B together are what percent more/less than girls of school B and D together?
(a) $60 \%$
(b) $50 \%$
(c) $40 \%$
(d) $70 \%$
(e) $80 \%$

Q15. No. of boys in school B and E are how much more/less than girls in school A, C and D?
(a) 500
(b) 1000
(c) 1500
(d) 2000
(e) 0

Q16. The perimeter of square is 3 times the perimeter of rectangle whose length and breadth are 12 cm and 8 cm respectively. Find out the total surface area of sphere whose diameter is 2 times of the side of square.
(a) $3000 \pi \mathrm{~cm}^{2}$
(b) $2300 \pi \mathrm{~cm}^{2}$
(c) $3300 \pi \mathrm{~cm}^{2}$
(d) $3600 \pi \mathrm{~cm}^{2}$
(e) $4300 \pi \mathrm{~cm}^{2}$

Q17. A container contains two liquid $A$ and $B$ in the ratio $3: 5$ when 40 liters of mixture are replaced with $B$, the ratio of $A: B$ becomes 18:35. find out the initial quantity of mixture.
(a) 424 liters
(b) 444 liters
(c) 520 liters
(d) 384 liters
(e) 414 liters

Q18. When the annual rate of compound interest increases from 7.5\% to $\mathbf{1 2 . 5 \%}$, then a man's yearly interest increase by Rs $\mathbf{1 7 5 0}$. Find out the simple interest on same principal at $5 \%$ per annum for 3 years?
(a) Rs. 4850
(b) Rs. 5250
(c) Rs. 4320
(d) Rs. 6520
(e) Rs. 5150

Q19. If $A, B$ and $C$ started a business in a partnership investing in the ratio of 3:5:7 respectively. At the end of the year, they earned total profit of Rs. 23550. which is $15 \%$ of the total investment. Find out the investment of B's share (approximately in Rs.)?
(a) Rs. 53860
(b) Rs. 51333
(c) Rs. 51003
(d) Rs. 53454
(e) Rs. 52334

Q20. There are three number $A, B$ and $C$. A is three times more than $B$ and 8 times of $C$. if average of $A, B$ and $C$ is Rs. 770, then find out the difference between 2 nd largest number and smallest number.
(a) 200
(b) 420
(c) 210
(d) 1470
(e) 110

Directions (21-25): What will come in place of (?) in the following questions:

Q21. 30\% of $190+16 \frac{2}{3} \%$ of $216-3=$ ? X 9
(a) 5
(b) 6
(c) 8
(d) 10
(e) 12

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Q22. $14 \frac{2}{7} \%$ of $91+9.09 \%$ of $198-?=30$
(a) 1
(b) 2
(c) 3
(d) 4
(e) 5

Q23. $\frac{\sqrt[3]{1728} \times \sqrt[2]{1.21} \times \sqrt[2]{49}}{\sqrt[3]{1331} \times \sqrt[3]{0.343} \times \sqrt[2]{1.44}}=$ ?
(a) 8
(b) 10
(c) 12
(d) 14
(e) 17

Q24. $\frac{27^{9} \times 32^{5} \times 9^{27} \times 81^{5}}{2^{20} \times 6^{5} \times 243^{5}}=3^{\text {? }}$
(a) 69
(b) 70
(c) 73
(d) 65
(e) 71

Q25. 50 \% of $\sqrt{1.69}+16.66 \%$ of $\sqrt{9216}-?=\sqrt[8]{(256)^{4}}$
(a) 0.76
(b) 0.67
(c) 0.65
(d) 0.69
(e) 0.75

Directions (26-30): What will come in place of the question mark (?) in each of the following number series?

Q26. 2, 8, 26, ?, 242
(a) 78
(b) 72
(c) 82
(d) 84
(e) None of these

Q27. 3, 4, 12, ?, 196,
(a) 45
(b) 40
(c) 41
(d) 49
(e) None of these

Q28.9, 17, ?, 65, 129
(a) 32
(b) 24
(c) 35
(d) 33
(e) None of these

Q29. 7, 13, ?, 35, 54
(a) 22
(b) 25
(c) 24
(d) 35
(e) None of these

Q30.5, 3, 6, ?, 64.75
(a) 15
(b) 15.5
(c) 17.5
(d) 17.25
(e) None of these

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