Quant Mega Quiz for SSC Tier-1

Q1. Find the compound interest on Rs. 15625 for 9 months at 16% per annum compounded quarterly?
(a) 1941 Rs.
(b) 1851 Rs.
(c) 2021 Rs.
(d) None of these

Q2. A takes 7 days more than B and 16 days more than C to complete a work. C works as much as (A + B) works together. In how many days will A, B and C alone complete this work individually?
(a) 34,27,18
(b) 28, 21, 12
(c) 31,24,15
(d) None of these

Q3. If $(4x^2 - 3y^2):(2x^2 + 5y^2)::12:19$ then $x:y = ?$
(a) 1:2
(b) 4:3
(c) 4:5
(d) 3:2

Q4. If the mean proportional between x and y is x times the third proportional, then find the ratio between x and y
(a) $x^2:1$
(b) $1:x^2$
(c) $x^{\frac{2}{3}}:1$
(d) $1:x^{\frac{2}{3}}$

Q5. The ratio of milk and water in a mixture is 7:5. We withdrew 9 ltr mixture and added same quantity of water to the mixture, then ratio becomes 1:1. Find initial quantity of milk.
(a) 36.75 lt.
(b) 36.15 lt.
(c) 36.50 lt.
(d) 36.35 lt.

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Q6. In an alloy, zinc and copper are in the ratio 3:1. In the second alloy the same element are in the ratio 4:5. If 12 kg of first alloy and 13.5 kg of second alloy and some amount of pure coper are mixed to form new alloy, that results to a formation of new alloy have ratio of zinc and copper 1:1. Find the weight of resultant alloy.

(a) 40 kg

(b) 30 kg

(c) 34 kg

(d) 36 kg

Q7. The greatest common divisor of $3^{3^{3^{333}}} + 1 \ and \ 3^{3^{3^{334}}} + 1 \ is$

(a) $3^{3^{333}}$

(b) 2

(c) $3^{3^{333}}+1$

(d) $3^{3^{33}}+1$

Q8. The value of 8÷[(9-5) ÷{(4÷2 of 4) -(8÷8 of 16) +(4×2÷8) }]

(a) 21/8

(b) 12/23

(c) 32/23

(d) 23/8

Q9. P is a point outside a circle and is 26 cm away from its centre. A secant PAB drawn from P intersects the circle at points A and B such that PB= 32 cm and PA = 18 cm. The radius of the circle (in cm) is

(a) 12

(b) 13

(c) 10

(d) 13

Q10. If $cosec\theta = 1.25$; then $\frac{4tan\theta - 5cos\theta + 1}{sec\theta + 4cot\theta - 1} = ?$

(a) 2

(b) 10/11

(c) 9/10

(d) 1/2

Q11. The sides AB, BC and AC of a ΔABC are 13 cm, 9 cm and 11 cm respectively. A circle is inscribed in the triangle touching AB, BC and AC at D, E and F respectively. The different between the length of AD and CE is

(a) 3

(b) 4

(c) 5

(d) 2

Q12. In a Rhombus ABCD angle A is equal to 60°, AC and BD intersects at O, which of the following is not true

(a) $3AD^2 = 4OA^2$

(b) $\frac{AC \times BC}{2} = area\ of\ ABCD$

(c) $AD^2 = 4DO^2$

(d) $(OA)^2 = (OB)^2$

Q13. Compound interest on a principal for 2 years and 3 years is 600 and 938 rupees respectively. Find the rate of interest?

(a) 10%

(b) $9\frac{1}{11}\%$

(c) $8\frac{1}{3}\%$

(d) 9%

Q14. If $a^{\frac{1}{3}} + b^{\frac{1}{3}} + c^{\frac{1}{3}} = 0$, then find the value of $(a+b+c)^6$ is equal to

(a) 81 abc

(b) $729a^2b^2c^2$

(c) 729 abc

(d) $81a^2b^2c^2$

Q15. 60% of (x-y) = 45% (x+y) & y = k% of x, then 21% of K is equal to

(a) 1

(b) 6

(c) 7

(d) 3

Q16. The ratio of two numbers is 3:5. If eight is added to the first and seven to the second, then the ratio becomes 2:3. What will be the ratio if 10 is added to both of them.

(a) 7:9

(b) 5:7

(c) 9:14

(d) 2:3

Q17. $2\sin^2\beta + 4\cos(\alpha+\beta)\sin\alpha\sin\beta + \cos2(\alpha+\beta) =$

(a) $\cos\beta$

(b) $\cos2\alpha$

(c) 1

(d) $\cos2\beta$

Q18. For any real θ, the maximum value of $\cos^2(\cos\theta) + \sin^2(\sin\theta)$ is

(a) 1

(b) $1 + \sin^2 1$

(c) $1 - \cos^2 1$

(d) $1 + \cos^2 1$

Q19.Consider the following for real number α, β, γ and δ. How many of the following statements are not possible?

(1) $\sec\alpha = \dfrac{1}{4}$

(2) $\tan\beta = 20$

(3) $\operatorname{cosec}\gamma = \dfrac{1}{2}$

(4) $\cos\delta = 2$

(a) one

(b) two

(c) Three

(d) all are possible

Q20. A 12 m long wire is cut into two pieces one of which is bent into a circle and the other into a square enclosing the circle. What is the radius of the circle?

(a) $\dfrac{12}{\pi+4}$

(b) $\dfrac{6}{\pi+4}$

(c) $\dfrac{3}{\pi+4}$

(d) $\dfrac{6}{\pi+2\sqrt{2}}$

Q21. Let x be the least number which when divided by 9,13,17 & 38 leaves a remainder of 7 in each case, but when x is divided by 11 it leaves remainder 8. The sum of digits of x is

(a) 36

(b) 27

(c) 34

(d) 41

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Q22. What is the simplified value

$$\text{of}\left[2-\cfrac{1}{\left\{1-\cfrac{2}{2+\cfrac{1}{3+\frac{1}{4}}}\right\}}\right]\times\frac{15}{16}\div\frac{34}{11}\ of\ 7\frac{1}{2}\ is$$

(a) 134/544

(b) 121/544

(c) -134/544

(d) -121/544

Q23. A seller sells 3 items A, B and C at a profit of 12%, 16% and 20% respectively. Overall profit from A and B is 15% whereas overall from all the 3 items is 16.25%. If the total number of items sold is 80 then find the individual number of items A, B and C sold?

(a) 15, 45, 20

(b) 45, 20, 15

(c) 12, 36, 32

(d) 30, 40, 10

Q24. The diagonals of three faces of a cuboid are 13, $\sqrt{281}$ and 20 linear units. Then the total surface area of the cuboid is

(a) 650 square units

(b) 658 square units

(c) 664 square units

(d) 672 square units

Q25. If the average of 42 innings of a batsman is 30. If highest and lowest innings are excluded then the average of remaining 40 innings is 28. If the difference between highest and lowest innings is 100 runs. Find his highest and lowest score.

(a) 100,40

(b) 125,15

(c) 110,30

(d) 120,20

Q26. After giving a discount of 10% on the marked price of an article a trader loses 1%. By what per cent should he increase the marked price in order to gain 8%, while the discount percentage remains the same?

(a) 10%

(b) $11\frac{1}{9}\%$

(c) $12\frac{1}{2}\%$

(d) $9\frac{1}{11}\%$

Q27. On selling 140 articles for Rs. 360 a person bears a loss of 36%. How many articles he should sell for Rs. 198 to earn a profit of 54%?

(a) 32

(b) 64

(c) 44

(d) 36

Q28. The radii of the base of two cylinders are in the ratio 8:15 and their heights in the ratio 5:4. The ratio of their curved surface will be:
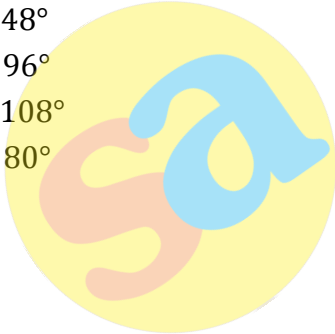
(a) 5:6

(b) 2:3

(c) 3:5

(d) 3:4

Q29. In Δ PQR, PQ = PR and X is a point on side PR. Such that QX is equal to QR. If PQ= 14.7 cm and QR is 7 cm what is the measure of XR?

(a) 3 cm

(b) 10/3 cm

(c) 11/3 cm

(d) 8/3 cm

Q30. AB is a chord in a circle with centre O. AB is produced to C such that BC is equal to the radius of the circle. C is joined to O and produced to meet the circle at D. If ⦟ ACD=32° then the measure of ⦟ AOD is

(a) 48°

(b) 96°

(c) 108°

(d) 80°