Quant Mega Quiz for SSC Tier - 1

Q1. A man, a woman and a boy together complete a place of work in 3 days. If a man alone can do it in 6 days and a boy alone in 18 days, how long will a woman take to complete the work?
(a) 9 days
(b) 21 days
(c) 24 days
(d) 27 days

Q2. A and B together can complete a work in 3 days. They start together. But, after 2 days, B left the work. If the work is completed after 2 more days, B alone could do the work in
(a) 5 days
(b) 8 days
(c) 9 days
(d) 10 days

Q3. A and B can complete a piece of work in 12 days and 18 days respectively. A being to do the work and they work alternately one at a time for one day each. The whole work will be completed in
(a) 43/3 days
(b) 47/3 days
(c) 49/3 days
(d) 56/3 days

Q4. 8 men can do a piece of work in 12 days. 4 women can do it in 48 days and 10 children can do it in 24 days. In how many days can 10 men, 4 women and 10 children together complete the piece of work?
(a) 5 days
(b) 15 days
(c) 28 days
(d) 6 day

Q5. A can do a certain job in 12 days. B is 60% more efficient than A. Then B can do the same piece of work in
(a) 8 days
(b) 7½ days
(c) 6¼ days
(d) 6 days

Q6. 9 men working 7 hours a day can complete a piece of work in 15 day. In how many days can 6 men working for 9 hours a day, complete the same piece of work?
(a) 63/4 days
(b) 16 days
(c) 67/4 days
(d) 35/2 days

Q7. 9 children can complete a piece of work in 360 days; 18 men can complete the same piece of work in 72 days and 12 women can complete it in 162 days. In how many days can 4 men, 12 women and 10 children together complete the piece of work?
(a) 68 days
(b) 81 days
(c) 96 days
(d) 124 days

Q8. 10 women can complete a work in 8 days and 10 children take 12 days to complete the work. How many days will 6 women and 3 children together take to complete the work?
(a) 7
(b) 8
(c) 9
(d) 12

Q9. A and B undertook to do a piece of work for Rs. 4500. A alone could do it in 8 days and B alone in 12 days. With the assistance of C, they finished the work in 4 days. C's share of money is:
(a) Rs. 375
(b) Rs. 750
(c) Rs. 1500
(d) Rs. 2250

Q10. A, B and C complete a piece of work costing Rs. 1800. A worked for 6 days, B for 4 days and C for 9 days. If their daily wages are in the ratio 5 : 6 : 4, how much amount will be received by A?
(a) Rs. 800
(b) Rs. 600
(c) Rs. 900
(d) Rs. 750

Q11.
If $1.5a = 0.04b$ then $\frac{b-a}{b+a}$ is equal to
(a)73/77
(b) 77/73
(c) 2/75
(d) 75/2

Q12.

If $a = 11$ and $b = 9$, then the value of $\left(\frac{a^2+b^2+ab}{a^3-b^3}\right)$

(a) 1/2
(b) 2
(c) 1/20
(d) 20

Q13.

If $p = 999$, then the value of $\sqrt[3]{p(p^2+3p+3)+1}$ is

(a) 1000
(b) 999
(c) 998
(d) 1002

Q14.

If $(x-3)^2 + (y-5)^2 + (z-4) = 0$, then the value of $\frac{x^2}{9} + \frac{y^2}{25} + \frac{z^2}{16}$ is

(a) 12
(b) 9
(c) 3
(d) 1

Q15.

$\frac{a^2-b^2-2bc-c^2}{a^2+b^2+2bc-c^2}$ is equal to :

(a) $\frac{a+b+c}{a-b+c}$
(b) $\frac{a-b-c}{a+b-c}$
(c) $\frac{a-b-c}{a-b+c}$
(d) $\frac{a-b+c}{a+b+c}$

Q16.

If $a + b + c + d = 1$, then the maximum value of $(1+a)(1+b)(1+c)(1+d)$ is

(a) 1
(b) $\left(\frac{1}{2}\right)^3$
(c) $\left(\frac{3}{4}\right)^3$
(d) $\left(\frac{5}{4}\right)^4$

Q17.

If $\frac{1}{\sqrt[3]{4}+\sqrt[3]{2}+1} = a\sqrt[3]{4} + b\sqrt[3]{2} + c$ and $a, b, c,$ are rational numbers, then $a + b + c$ is equal to

(a) 0

(b) 1

(c) 2

(d) 3

Q18.

If $a = \frac{\sqrt{5}+1}{\sqrt{5}-1}$ and $b = \frac{\sqrt{5}-1}{\sqrt{5}+1}$ then the value of $\frac{a^2+ab+b^2}{a^2-ab+b^2}$

(a) 3/4

(b) 4/3

(c) 3/5

(d) 5/3

Q19.

If $x = \sqrt[3]{a + \sqrt{a^2 + b^3}} + \sqrt[3]{a - \sqrt{a^2 + b^3}}$, then $x^3 + 3bx$ is equal to:

(a) 0

(b) a

(c) 2a

(d) 1

Q20.

If average of x and $\frac{1}{x}(x \neq 0)$ is M then what is the average of x^2 and $\frac{1}{x^2}$?

(a) 1-M²

(b) 1-2M

(c) 2M²-1

(d) 2M²+1

Q21.

The expression $x^4 - 2x^2 = -k$ will be a perfect square when the value of k is

(a) 2

(b) 1

(c) –1

(d) –2

Q22.

If $\frac{4x}{3} + 2P = 12$ for what value of P, $x = 6$?

(a) 6
(b) 4
(c) 2
(d) 1

Q23.

If $a^{\frac{1}{3}} = 11$ then the value of $a^2 - 331a$ is

(a) 1331331
(b) 1331000
(c) 1334331
(d) 1330030

Q24.

If $x + y + z = 0$,
then $(x + y)(y + z)(z + x)$ is equal to which of the following ?

(a) $-xyz$
(b) $x^2 + y^2 + z^2$
(c) $x^3 + y^3 + z^3 + 3xyz$
(d) xyz

Q25.

If $x + \frac{1}{x} = \sqrt{3}$
then the value of $x^{18} + x^{12} + x^6 + 1$ is

(a) 0
(b) 1
(c) 2
(d) 3

Q26.

If $x - \frac{1}{x} = 4$, then $\left(x + \frac{1}{x}\right)$ is equal to

(a) $2\sqrt{2}$
(b) $2\sqrt{5}$
(c) $4\sqrt{2}$
(d) $4\sqrt{5}$

Q27.

If $x = 3 + 2\sqrt{2}$,

then the value of $\left(\sqrt{x} - \frac{1}{\sqrt{x}}\right)$ is :

(a) 1
(b) 2
(c) $2\sqrt{2}$
(d) $3\sqrt{2}$

Q28.

If $\left(x + \frac{1}{x}\right)^2 = 3$, then the value of

$(x^{72} + x^{66} + x^{54} + x^{48} + x^{36} + x^{30} + x^{24} + x^{18} + x^6 + 1)$ is

(a) 0
(b) 2
(c) 3
(d) 4

Q29.

If $a^x = (x + y + z)^y$ and $a^y = (x + y + z)^z$ and $a^z = (x + y + z)^x$,

then the value of $x + y + z$ (given $a \neq 0$) is :

(a) 0
(b) a^3
(c) 1
(d) a

Q30.

If $a^4 + b^4 = a^2b^2$, then $(a^6 + b^6)$ is equal to

(a) 0
(b) 1
(c) $a^2 + b^2$
(d) $a^2b^4 + a^4b^2$