

## Quant Mega Quiz for SSC Tier - 1

**Q1.** A man, a woman and a boy together complete a piece 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 begins to do the work and they work alternately one at a time for one day each. The whole work will be completed in

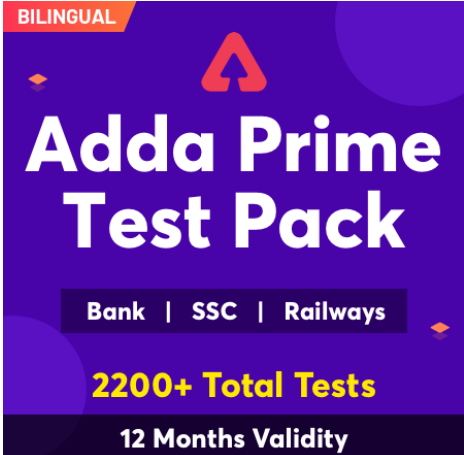
- (a)  $43\frac{1}{3}$  days
- (b)  $47\frac{1}{3}$  days
- (c)  $49\frac{1}{3}$  days
- (d)  $56\frac{1}{3}$  days

**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 days

**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)  $7\frac{1}{2}$  days
- (c)  $6\frac{1}{4}$  days
- (d) 6 days



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**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.

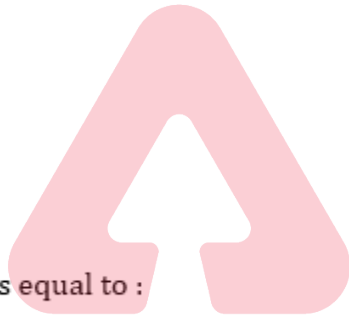
$\frac{a^2-b^2-2bc-c^2}{a^2+b^2+2bc-c^2}$  is equal to :

- (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)  $\left(\frac{5}{4}\right)^4$



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**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)  $\frac{3}{4}$
- (b)  $\frac{4}{3}$
- (c)  $\frac{3}{5}$
- (d)  $\frac{5}{3}$

**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)  $1-M^2$
- (b)  $1-2M$
- (c)  $2M^2-1$
- (d)  $2M^2+1$

**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)  $a^2b^4 + a^4b^2$

