

**MADE EASY**

Leading Institute for IES, GATE & PSUs

Delhi | Bhopal | Hyderabad | Jaipur | Pune | Kolkata

Web: www.madeeasy.in | E-mail: info@madeeasy.in | Ph: 011-45124612

REASONING & APTITUDE

CIVIL ENGINEERING

Date of Test : 21/09/2025

ANSWER KEY ➤

1. (b)	7. (d)	13. (b)	19. (a)	25. (c)
2. (b)	8. (d)	14. (c)	20. (c)	26. (d)
3. (b)	9. (b)	15. (c)	21. (c)	27. (a)
4. (a)	10. (d)	16. (d)	22. (a)	28. (c)
5. (b)	11. (a)	17. (b)	23. (b)	29. (b)
6. (c)	12. (b)	18. (b)	24. (d)	30. (b)

DETAILED EXPLANATIONS

1. (b)

$$\begin{aligned} \text{Value of consignment} &= \frac{\text{total profit} \times 100}{\% \text{ profit} \times \frac{1}{2} - \% \text{ loss} \times \frac{1}{2}} = \frac{900 \times 100}{\frac{1}{2} \times 12 - \frac{1}{2} \times 6} \\ &= \frac{900 \times 100}{3} = ₹ 30,000 \end{aligned}$$

2. (b)

Because Sohan eats more than Mohan and Raghav eats more than Sohan. Hence, Rathav eats more than Mohan.

3. (b)

$$\begin{array}{ccccccc} \text{Ratio,} & A & : & B & :: & B & : & C \\ & 1000 & & 920 & & 1000 & & 900 \end{array}$$

$$\begin{array}{ccccccc} & A & : & B & : & C \\ & 1000 & & 920 & & 828 \end{array}$$

$$\text{In } 3/2 \text{ km} = 1000 \times 3/2$$

$$1500 \quad : \quad 920 \times \frac{3}{2} \quad : \quad 828 \times \frac{3}{2}$$

$$1380 \quad : \quad 1242$$

$$\text{difference} = 1500 - 1242 = 258$$

4. (a)

Because 4 + 7 + 7 + 7 means Monday so after Monday is Tuesday.

5. (b)

$$\text{LCM of } (15, 30, 60, 90) \text{ min} = 180 \text{ min} = 3 \text{ hr.}$$

6. (c)

$$N(\text{Frontline } U \text{ Filmfare } U \text{ Sportstar}) = 45 + 55 + 40 - 30 - 15 - 25 + 10 = 80$$

∴ Percentage who do not read any magazine

$$= 100 - 80 = 20$$

7. (d)

In given code, first half of the word and second half of the word are reversed. NAGENDGA will be written as EGANAGDN.

8. (d)

$$u + v = 6$$

$$u - v = 2$$

$$2u = 8$$

$$u = 4 \text{ km/hr}$$

$$v = 2 \text{ km/hr}$$

9. (b)

$$\begin{aligned}x + y &= 80 & \dots(i) \\3x &= 5y \\x &= \frac{5y}{3}\end{aligned}$$

Now putting the value of x in equation (i)

$$\begin{aligned}\frac{5y}{3} + y &= 80 \\ \frac{8y}{3} &= 80 \\ y &= 30 \\ x &= \frac{5 \times 30}{3} = 50\end{aligned}$$

Then numbers are 50, 30.

10. (d)

Because in the given question Sima is niece of that person.

11. (a)

Formula $a\left(\frac{a-b}{a}\right)^n$

$$\text{Amount of milk left} = 90\left(\frac{90-9}{90}\right)^3 = 90\left(\frac{81}{90}\right)^3 = 65.61 \text{ kg}$$

12. (b)

Let B be closed after x minute, then part filled by $(A + B)$ in x minute + part filled by A in $(9 - x)$ min = 1

$$\begin{aligned}x\left(\frac{1}{12} + \frac{1}{16}\right) + (9-x) \times \frac{1}{12} &= 1 \\ \frac{7x}{48} + \frac{9-x}{12} &= 1 \\ 7x + 36 - 4x &= 48 \\ \therefore x &= 4 \text{ min}\end{aligned}$$

13. (b)

Because in each row first \times third + 1 = second.

$$\text{So } 9 \times 4 + 1 = 37$$

14. (c)

By assuming any of the two statements to be true, we can conclude that C is youngest.

15. (c)

$$\begin{aligned}\text{Area of walls} &= 2(l + b)h = 2(16 + 12)6 = 336 \text{ m}^2 \\ \text{Area of two window and door} &= 2 \times 3 \times 2 + 4 \times 3 = 24 \text{ m}^2 \\ \text{Area to be covered} &= 336 - 24 = 312 \text{ m}^2 \\ \text{Length of paper} &= \frac{312 \times 100}{100} = 312 \text{ m} \\ \text{Cost} &= \frac{312 \times 50}{100} = ₹156\end{aligned}$$

16. (d)

$$\begin{aligned}
 A + B + C &= 620 \\
 1. B &= 32 + C \\
 2. A &= 6 + C \\
 3. A &= B - 26
 \end{aligned}$$

17. (b)

First sentence, this can be the possibility – PQ or QP , but not RPQ or QPR

Second sentence, RS or SR is not possible.

So, R has to be next to Q , and S next to P .

It can be either $SPQR$ or $RQPS$

18. (b)

$$5 + 2 = 7 + 3 = 10 + 4 = 14 + 5 = 19,$$

$$8 + 3 = 11 + 4 = 15 + 5 = 20 + 6 = 26,$$

$$X - 3 = U - 3 = R$$

$$C - 3 = F, \text{ hence, } ? = 19R26$$

19. (a)

$$\begin{array}{rcl}
 \text{Income } 5 & : & 4 \\
 \text{Expenditure } 4 & : & 3 \\
 \hline
 \text{Difference } 1 & : & 1 \\
 1 & = & 7000 \\
 \text{Raj's Income} & = & 5 \times 7000 = 35000 \\
 \text{Rahul's Income} & = & 4 \times 7000 = 28000
 \end{array}$$

20. (c)

$$\begin{aligned}
 \text{Let Son's present age be } x \text{ year, Father} &= (4x + 4) \\
 4x + 4 + 4 &= 3(x + 4) + 8 \\
 4x + 8 &= 3x + 12 + 8 \\
 x &= 12 \\
 \text{Father} &= 52 \text{ years}
 \end{aligned}$$

21. (c)

Of all the smaller cubes obtained, only the inner cubes (i.e. those which had none of their 6 faces exposed) will have no face painted. Number of such inner cubes = $(n - 2)^3$, where n is the number of smaller cubes on each edge, which is 4 in this case.

Hence, the required number of cubes

$$= (4 - 2)^3 = 2^3 = 8$$

22. (a)

	American	Chinese	Mediterranean	Continental
A	y	y		
B	y		y	
C		y	y	y
D	y	y		y

B and C feel sick and both of them ate Mediterranean. So, it must be Mediterranean which made them sick.

23. (b)

Number of guests in function is n

$$\frac{n(n-1)}{2} = 78$$

$$n^2 - n = 156$$

$$n^2 - n - 156 = 0$$

$$n^2 - 13n + 12n - 156 = 0$$

$$n(n-13) + 12(n-13) = 0$$

$$(n+12)(n-13) = 0$$

$$n = 13$$

24. (d)

As per statement 5: The number of males equals that of females, i.e. there must be 3 males and 3 females in the family.

Now, **as per statements 4 and 2:** P and T are sons of U and Q is the son of P .

We can see P , Q and T are males. Hence, R , S and U must be females.

As per statement 3: S is the mother of two, one boy and one girl.

Now, U cannot be the daughter of S , as otherwise R must be her son. But we already know that R is a female. Hence, R must be the daughter of S .

As per statement 1, there's only one married couple in the family at present. The only possibility is that P is married to S . We can only infer that P is the husband of S .

25. (c)

Since roads are either North-South or, East-West, it can be seen that Vettel can reach his original location by first travelling 6 km east and then 2 km north as given in option (c).

26. (d)

Let height of the first cylinder be $2h$

Then height of the second cylinder is $3h$

Let radius of the first and second cylinders be r_1 and r_2 respectively

$$\therefore \text{Volume of the first cylinder} = \pi r_1^2 \cdot 2h$$

$$\text{and volume of the second cylinder} = \pi r_2^2 \cdot 3h$$

$$\pi r_1^2 \cdot 2h = \pi r_2^2 \cdot 3h$$

$$2r_1^2 = 3r_2^2$$

$$\frac{r_1^2}{r_2^2} = \frac{3}{2}$$

$$\frac{r_1}{r_2} = \frac{\sqrt{3}}{\sqrt{2}}$$

$$r_1 : r_2 = \sqrt{3} : \sqrt{2}$$

27. (a)

$$x^3 - \frac{1}{x^3} = 14$$

$$\left(x - \frac{1}{x}\right)^3 + 3x \times \frac{1}{x} \left(x - \frac{1}{x}\right) = 14$$

$$\text{Put } x - \frac{1}{x} = z$$

$$z^3 + 3z - 14 = 0$$

Now, $z = 2$, satisfies the equation, hence $(z - 2)$ is a factor. i.e.,

$$z = 2$$

$$x - \frac{1}{x} = 2$$

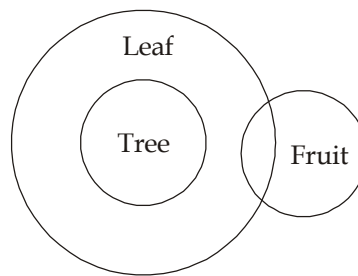
28. (c)

$$13 + 5 - 5 = 13 \times 5 + 5 \times 2 = 75,$$

$$11 + 7 - 3 = 11 \times 7 + 3 \times 2 = 83$$

$$\text{so } 18 + 6 - 8 = 18 \times 6 + 8 \times 2 = 124$$

29. (b)



30. (b)

$$\text{Difference} = \text{CI} - \text{SI} = \frac{Pr^2}{100^2}$$

$$72 = 5000 \times \frac{r^2}{100 \times 100}$$

\therefore

$$r = 12\% \text{ per annum}$$

