CLASS TEST S.No.:01DLSK_ABCDEFGH_200826

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REASONING & APTITUDE

COMPUTER SCIENCE & IT

Date of Test : 20/08/2026

ANSWER KEY

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

DETAILED EXPLANATIONS

1. (a)

Let Q joined the business after x months.

$\therefore$ Q invested his money for $(12 - x)$ months

$$\frac{64000 \times 12}{48000 \times (12 - x)} = \frac{2}{1}$$

$$48000\,(12 - x) \times 2 = 64000 \times 12$$

$$6\,(12 - x) = 4 \times 12$$

$$x = \frac{24}{6} = 4 \text{ months}$$

2. (c)

The least number completely divisible by 21, 24 and 27 is LCM of 21, 24 and 27 = $2^3 \times 3^3 \times 7$

$\therefore$ Least perfect cube completely divisible by 21, 24 and 27 is

$$\begin{aligned} 2^3 \times 3^3 \times 7^3 &= \text{LCM} \times 7^2 \\ &= \text{LCM} \times 49 \\ &= 74088 \end{aligned}$$

3. (a)

$$\begin{aligned} 12 \times 2 + 2^2 &= 28 \\ 28 \times 3 - 3^2 &= 75 \\ 75 \times 4 + 4^2 &= 316 \\ 316 \times 5 - 5^2 &= 1555 \\ 1555 \times 6 + 6^2 &= 9366 \end{aligned}$$

4. (b)

Let the quantity of wine originally in the cask be x litres.

Quantity of wine left in the cask after 4 operations

$$= x\left(1 - \frac{8}{x}\right)^4 \text{ litres}$$

$$\frac{x\left(1 - \frac{8}{x}\right)^4}{x} = \frac{16}{81}$$

$$\left(1 - \frac{8}{x}\right)^4 = \frac{16}{81} = \left(\frac{2}{3}\right)^4$$

$$\left(1 - \frac{8}{x}\right) = \frac{2}{3}$$

$$\frac{8}{x} = \frac{1}{3}$$

$$x = 24 \text{ litres}$$

5. (b)
9 O′ clock the hour hand is at 9 and the minute hand is at 12 i.e. two hands are 15 minutes space apart. To be in same straight wine but pointing in the opposite direction they will be at 30 min space apart. Minute hand will have to gain (30 – 15) = 15 min space over the hour hand.

55 minutes space is gained in 60 minutes 15 minutes, space will be gained in $\left(\frac{60}{55}\times 15\right)$ minutes

$$= \frac{180}{11} = 16\frac{4}{11} \text{ minutes}$$

The hands will be in same straight line but pointing in opposite direction at $16\frac{4}{11}$ min past 9.

6. (a)
Let CP of 1 pen be ₹ x

$$\begin{aligned} \text{CP of 12 pens} &= \text{SP of 8 pens} = ₹\ 12x \\ \text{Profit} &= \text{SP of 4 pen} \\ &= \text{CP of 6 pen} = ₹\ 6x \\ \therefore \quad \text{Gain \%} &= \frac{\text{CP of 6 pens}}{\text{CP of 12 pens}}\times 100 \\ &= \frac{6x}{12x}\times 100 = 50\% \end{aligned}$$

7. (d)

$$\begin{aligned} \sqrt{1.3}+\sqrt{1300}+\sqrt{0.013} &= 1 \\ &= \sqrt{10^{-2}\times 130}+10\sqrt{13}+\sqrt{10^{-4}\times 130} \\ &= 0.1\sqrt{130}+10\sqrt{13}+0.01\sqrt{130} = 10\sqrt{13}+0.11\sqrt{130} \\ \text{Given,} \quad \sqrt{13} &= 3.065,\ \sqrt{130} = 11.4 \\ \therefore \quad 10\sqrt{13}+0.11\sqrt{130} &= 10\times 3.605 + 0.11\times 11.4 \\ &= 36.05 + 1.254 = 37.304 \end{aligned}$$

8. (c)

$$\text{Ratio of their speeds} = \frac{\frac{300}{7.5}}{\frac{450}{9}} = \frac{40}{50} = \frac{4}{5}$$

9. (b)

$$\begin{aligned} \text{Average age of boys} &= 16.4 \text{ years} \\ \text{Average age of girls} &= 15.4 \text{ years} \end{aligned}$$

Let m be number of boys and n be number of girls.

$$\begin{aligned} \frac{m\times 16.4 + n\times 15.4}{m+n} &= 15.8 \\ 16.4\,m + 15.4\,n &= 15.8\,m + 15.8\,n \\ 0.6\,m &= 0.4\,n \\ \frac{m}{n} &= \frac{0.4}{0.6} = \frac{2}{3} \end{aligned}$$

10. (d)

Possibilities where M is ahead of N

$$= 4! + 3 \times 3! + 2 \times 3! + 3!$$
$$= 24 + 18 + 12 + 6 = 60$$

Alternative solution:

Arrangement of runners in 1st to 5th position = 5! = 120

M can either be ahead or behind N.

Hence possibilities where M is ahead of $N = \frac{1}{2} \times 120 = 60$

11. (a)

Let the total distance the x km

$$\text{Time taken at 60 km/h speed} = \frac{x}{60}\text{hour}$$

$$\text{Time taken at 40 km/h speed} = \frac{x}{40}\text{hour}$$

$$\text{Time taken to rest} = \frac{x}{40} - \frac{x}{60}$$

$$= \frac{3x - 2x}{120} = \frac{x}{120}\text{hour}$$

$$\text{Rest/hour} = \frac{x}{120} + \frac{x}{40}$$

$$= \frac{x}{120} \times \frac{40}{x} = \frac{1}{3}\text{hour} = 20\text{ min}$$

12. (a)

27th March 2002 to 27th March 2005 = 3 years = 2 ordinary year + 1 leap year

= 2 + 2 = 4 odd days

∴ Day on which 27th March 2002 falls = Monday – 4 = Thursday

13. (a)

Let man's upstream speed be x km/hr and downstream speed be $3x$ km/hr.

$$\text{Rate in still water} = \frac{1}{2}(x + 3x) = 2x\text{ km/hr}$$

$$2x = 24$$

$$x = 12\text{ km/hr}$$

$$\text{Upstream speed} = 12\text{ km/hr}$$

$$\text{Downstream speed} = 3x = 36\text{ km/hr}$$

$$= \frac{1}{2}(36 - 12) = 12\text{ km/hr}$$

14. (d)

Any number ending in 7 when raised to a power will have the following pattern 7,9,3,1 as the units digit and any number ending in 2 when raised to a power will have the following pattern 2, 4, 8, 6 as the units digit. Now 97^{275} means we divide 275 by 4 and compare it against the pattern 275th power will have 3 as the units digit.

32^{44} means we divide 44 by 4 and compare it against the pattern 44th power will have 6 as the units digit. Thus we have 3 – 6. The trick is that you have to imagine the normal subtraction and get 1 as the carry over thus it is actually 13 – 6 = 7.

15. (d)

Assume that 4 women are together.

$\therefore$ Total number of persons seated $= 5 + 1 = 6$

$\therefore$ Number of ways in which six person can be seater = 6! = 720 ways

4 women can be arranged among themselves in 4! ways = 24 ways

$\therefore$ Total number of arrangement $= 720 \times 24 = 17280$ ways

16. (a)

Let the time taken to complete the work by 100 men be t days.

$\therefore$ Work done by 100 men in 35 days + work done by 200 men in (40 – 35) = 5 days = 1

$$\Rightarrow \quad \frac{100 \times 35 + 200 \times 5}{100t} = 1$$

$$\frac{45}{t} = 1$$

$$\Rightarrow \quad t = 45 \text{ days}$$

$\therefore$ If additional men were not employed, the work would have completed in (45 – 40) = 5 days behind the schedule.

17. (b)

$$\% \text{ effect} = 25 - 10 - \frac{25 \times 10}{100}$$

$$= 15 - 2.5 = 12.5\%$$

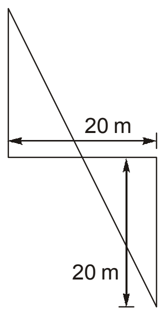
$\therefore$ His income is increased by 12.5%.

18. (c)

$$\text{Sixth result} = (6 \times 63 + 6 \times 67 - 11 \times 65)$$

$$= 378 + 402 - 715 = 65$$

19. (d)



Distance between his initial & final position is

$$\sqrt{(40)^2 + (20)^2} = 44.71 \approx 45 \text{ m}$$

20. (a)

Number of candidate who failed in at most two subjects = Candidates failed in one subject + candidates failed in two subjects

$$= (25 + 50 + 25) + (12 + 15 + 15) = 142$$

$$\text{Required percentage} = \left(\frac{142}{300} \times 100\right)\% = 47 \times \frac{1}{3}\% = 47.33\%$$

21. (b)

Here,
$$48 - 33 = 15$$
$$78 - 63 = 15$$
$$126 - 111 = 15$$

The remainder in each case is less than the divisor by 15. Therefore, if 15 is added to required number, the resulting number will become exactly divisible by 48, 78 and 126 i.e. required number is 15 less than LCM of 48, 78 and 126.

$\therefore$ LCM of 48, 78 and 126 = 13104

Required number = 13104 – 15 = 13089

22. (a)

Since, there are 4 routes from A to B and 6 routes from B to C. Thus, the number of possible routes from A to $C = 4 \times 6 = 24$.

23. (b)

$$\text{Required percentage} = \frac{70+80}{95+110} \times 100 = \frac{150}{205} \times 100 = 73.17$$

24. (b)

Average sales of branches = B_1, B_2 and B_3 in 2001

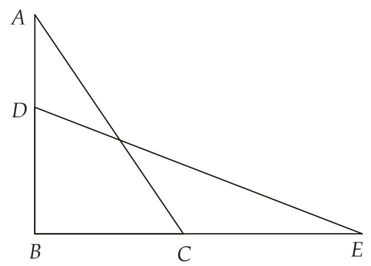
$$= \frac{1}{3} \times (105+65+110) = \frac{280}{3}$$

Average sales of branches = B_1, B_3 and B_6 in 2000

$$= \frac{1}{3} \times (80+95+70) = \frac{245}{3}$$

$$\text{Required percentage} = \frac{245/3}{280/3} \times 100 = \frac{700}{8} = 87.5\%$$

25. (d)



Original position of the ladder = AC = 25ft

Base = BC = 7ft

In ΔABC, using Pythagoras theorem

$$(AB)^2 = (AC)^2 - (BC)^2$$

$$\Rightarrow \quad (AB)^2 = (25)^2 - (7)^2$$

$$\Rightarrow \quad AB = \sqrt{625-49} = \sqrt{576}$$

$$\Rightarrow \quad AB = 24 \text{ ft}$$

After drawing out the base, the new position of ladder = ED = 25 ft

and $AD = x$ and $CE = 2x$

To find : CE = ?

In ΔDBE

$DB = (24 - x)$ and $BE = (7 + 2x)$

$$
\begin{aligned}
(DB)^2 + (BE)^2 &= (ED)^2 \\
(24 - x)^2 + (7 + 2x)^2 &= (25)^2 \\
(576 - 48x + x^2) + (49 + 28x + 4x^2) &= 625 \\
625 - 20x + 5x^2 &= 625 \\
5x^2 &= 20x \\
x &= \frac{20}{5} = 4 \\
CE &= 2 \times 4 = 8 \text{ ft}
\end{aligned}
$$

None of the options include 8 in the interval.

26. (a)

Let's go step by step:

$$\text{First operation: } 3L - 1L = \frac{6}{3}L \text{ of wine left, total } 4L;$$

Second operation: $\frac{6}{3}L - \left(\frac{6/3}{4}\right) = \frac{6}{3} - \frac{6}{12} = \frac{18}{12} = \frac{6}{4}L$ of wine left, total $5L$;

Third operation: $\frac{6}{4}L - \left(\frac{6/4}{5}\right) = \frac{6}{4} - \frac{6}{20} = \frac{24}{20} = \frac{6}{5}L$ of wine left, total $6L$;

Fourth operation: $\frac{6}{5}L - \left(\frac{6/5}{6}\right) = \frac{6}{5} - \frac{6}{30} = \frac{30}{30} = \frac{6}{6}L$ of wine left, total $7L$;

At this point it's already possible to see the pattern: $x = \frac{6}{n+2}$

$$n = 19$$

$$\Rightarrow \quad x = \frac{6}{(19+2)} = \frac{6}{21} = \frac{2}{7}L$$

27. (d)

a = Sum of an arithmetic sequence with first term, 15 and last term, 35 and common difference 2.

Number of odd numbers from 15 to 35, $n = \frac{(35-15)}{2} + 1 = 11$

$$a = \frac{11}{2}(15+35) = 275$$

b = number of even integers from 16 to 34 inclusive = $\frac{(34-16)}{2} + 1 = 10$

Therefore, $a - b = 265$

28. (a)

If these four lines are parallel, then we'll have 0 vertices.

If no two of the four are parallel, then each distinct pair of lines will give a vertex, thus total of ${}^4C_2 = 6$ vertices.

29. (d)
The relative speed of the two trains is 30 + 40 = 70 miles per hour. Therefore 1 hour before they meet, they must be 70 miles apart (in the final 1 hour they will cover 70 miles to meet).

30. (c)
In a regular hexagon three diagonals pass through the centre.
G is the centre making the total number of points = 7.
To form a triangle, we need 3 points at a time.
Therefore, total number of possible triangles = ${}^7C_3 = 35$
But since three diagonals pass through the centre, *G* will be collinear in three cases.
Therefore total number of triangles that can be formed using vertices from amongst these 7 points = 35 – 3 = 32.

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