

LIC AAO Mock Test 2

Q 1. Find the last digit in the expression $(21342)^{123!} \times (12347)^{76!}$

1. 7
2. 8
3. 9
4. 6

Q 2. A school has only 3 classes that contain 20, 30 and 40 students, respectively. The pass percentage of these classes are 30%, 40% and 50% respectively. Find the pass percentage of the entire school.

1. 55.55
2. 40.50
3. 42.22
4. 68.18

Q 3. Sachin has a certain average for 6 innings. In the 7th innings, he scores 50 runs thereby increasing his average by 4 runs. His new average is

1. 28
2. 26
3. 12
4. 30

Q 4. At an election, the candidate who got 60% of the votes cast won by 500 votes. Find the total number of voters on the voting list if 71.4% of people cast their vote and there were no invalid votes.

1. 3000
2. 2000
3. 3500
4. 1200

Q 5. In an examination, 80% of students passed in Maths, 70% in Science while 15% failed in both the subjects. If 1300 passed in both the subjects, find the total number of students who appeared in the examination.

1. 1200
2. 1500
3. 2000
4. 1000

Q 6. The price of raw materials has gone up by 20%, labour cost has also increased from 25% of the cost of the raw material to 40% of the cost of the raw material. By how much percentage there should be a reduction in the usage of raw material so as to keep the cost the same?

1. 25.59
2. 32
3. 46
4. 21

Q 7. A cunning trader mixed 1 litre of water for every 7 litres of petrol and thus made up 80 litres of adulterated petrol. If he now adds 15 litres of petrol to the mixture, find the ratio of petrol and water in the mixture.

1. 15:1
2. 20:7
3. 17:2
4. 16:3

Q 8. A sphere of diameter 18 cm is melted and cast into a right circular cone of height 24 cm. Find the diameter of the base of the cone.

1. 11.50 cm
2. 12.50 cm
3. 10.38 cm
4. 9.8 cm

Q 9. How many words are possible from the letters of the words COMBINATION?

1. $11!$
2. $5!$
3. $11! / (2! \times 2! \times 2!)$
4. $11! / (2! \times 2!)$

Directions (10-14): Study the information carefully and answer the given questions.

Four players P, Q, R, and S are holding 4 cards each. Each of them has an Ace, a king, a Queen and a Jack. All of them have all the suits (spades, hearts, clubs, and diamonds).

- I. P has ace of spades and Queen of diamonds
- II. Q has ace of clubs and King of diamonds

III. R has queen of clubs and King of spades.
IV. S has jack of clubs.

Q 10. Ace of diamonds is with

1. Q
2. S
3. R
4. P

Q 11. Jack of hearts is with

1. S
2. Q
3. R
4. P

Q 12. Queen of spades is with

1. Q
2. R
3. P
4. S

Q 13. R has which of the following with

1. Ace of hearts
2. Queen of spades
3. King of diamonds
4. Jack of clubs

Q 14. S has which of the following with him?

1. King of hearts
2. Jack of Clubs
3. Ace of spades
4. Queen of diamonds

Directions (15-17): Study the information carefully and answer the given questions.

A, B, C, D, E, F, G and H are eight friends sitting around a circle facing towards the centre.

- I.H is on the immediate left of A but is not the neighbour of E or D.
- II.F is on the immediate right of B and G is the neighbour of E.
- III.C is between E and F.

Q 15. Which of the following statements is true?

1. E is between F and B.
2. F is the neighbour of G
3. G is between H and E.
4. H is between A and D.

Q 16. What is the position of D?

1. On the immediate left of B
2. Second to the right of F
3. Between B and F
4. On the immediate left of A

Q 17. What is the position of G?

1. Second to the left of D
2. Third to the right of F
3. On the immediate right of H
4. Between E and C

Directions (18-22): Rearrange the given 5 sentences in a proper sequence so as to form a meaningful paragraph.

1. The Houthi militants carried out an audacious large scale attack with 10 drones targeting Saudi Aramco oil facilities in Abqaiq and Khurais
2. The attack has come at a time when the Saudi led coalition is weakening with the pull out of UAE from the campaign against Houthi rebels and relations between Qatar and Saudi Arabia are going South.
3. The US and Saudi claim the missile and drone technology has been transferred by Iran to Houthi rebels. The swarm drone attack is a potent alternative to retaliate against Saudi led coalition that has been carrying out the indiscreet bombing of Houthi held positions.
4. One of the national security analysts said “there have been more than 200 drone attacks launched by Houthi rebels from Yemen into Saudi Arabia, and none have been as effective as the latest attack.
5. Even in the past Houthi rebels had attacked Saudi Arabia but the precision and scale of the attack have not been so enormous. The attack has disabled the largest crude processing facility of Saudi Arabia thereby disrupting oil supply by almost 50 per cent.

Q 18. Which is the last sentence of the paragraph?

1. 2
2. 3
3. 4
4. 5

Q 19. Which is the second sentence in the paragraph?

1. 3
2. 5
3. 2
4. 1

Q 20. Which is the third sentence in the paragraph?

1. 4
2. 2
3. 5
4. 1

Q 21. Which is the fourth sentence in the paragraph?

1. 2
2. 3
3. 4
4. 5

Q 22. Which is the first sentence of the paragraph?

1. 5
2. 2
3. 4
4. 1

Directions (23-25): Fill in the blank with the appropriate word.

Structural shifts in the automobile industry, miserable productivity gains in advanced economies, shrinking spare capacity, and the build-up of financial ---- (23) ---- would be sufficient causes for concern even in normal times. But, today, a combination of cracks in the global trading system and an unprecedented shortage of policy ammunition are adding to the worries.

The average US tariff on imports from China will increase from 3% two years ago to 27% by the end of the year, while Chinese tariffs on US goods will rise from 8% to 25% over the same period. These are sharp enough increases to ---- (24) ---- supply chains. Anxieties over a further ---- (25) ---- will inevitably dent investment.

Q 23.

1. Robust
2. Strong
3. Fragilities
4. Vigorous

Q 24.

1. Disrupt
2. Organised
3. Arranged
4. Systematic

Q 25.

1. Plunge
2. Depreciation
3. Crash
4. Escalation

Answer Keys

Q 1. 4	Q 2. 3	Q 3. 2	Q 4. 3	Q 5. 3
Q 6. 1	Q 7. 3	Q 8. 3	Q 9. 3	Q 10. 2
Q 11. 4	Q 12. 4	Q 13. 1	Q 14. 1	Q 15. 3
Q 16. 1	Q 17. 2	Q 18. 1	Q 19. 2	Q 20. 1
Q 21. 2	Q 22. 4	Q 23. 3	Q 24. 1	Q 25. 4

Solution 1:

2^1 ends with 2.

2^2 ends with 4

2^3 ends with 8

2^4 ends with 6

Hence raise 2 to any power, the last digit will end with the pattern - 2,4,8,6.

If we raise 2 to the power of $4n$, the last digit ends with 6.

$123!$ Can be written in the form of $4n$.

Hence, unit digit of $(21342)^{123!}$ is 6.

7^1 ends with 7.

7^2 ends with 9.

7^3 ends with 3

7^4 ends with 1

We can find from above that when 7 is raised to any power it ends with pattern 7,9,3,1.

$76!$ Can be written in the form of $4n$.

When 7 is raised to any the power of $4n$, the unit digit is 1.

$76!$ Can be written in the form of $4n$.

Hence unit digit of $(12347)^{76!}$ is 1.

Hence we can conclude that unit digit of $(21342)^{123!} \times (12347)^{76!}$ is $6 \times 1 = 6$

Solution 2:

Using the weighted average method

Pass percentage = Passed students / Total students

Total students = 90

Passed students

$$= (20 \times 0.3 + 30 \times 0.4 + 40 \times 0.5) / (20+30+40)$$

$$= (6 + 12 + 20) / 90$$

$$= (38 / 90) * 100 = 42.22\%$$

Solution 3:

Let his average for 6 innings be x .

Total after 6 innings is $6x$.

In the 7th innings he scores 50, so his total increases to $6x + 50$.

In the 7th innings when scores 40, his average increases by 4.

Hence new total after 7th innings is $7(x + 4)$

$$6x + 50 = 7(x + 4)$$

$$X = 22$$

Hence new average = $22 + 4 = 26$

Solution 4:

The winning candidate gets 60% of the votes cast.

Hence we can deduce that losing candidate got 40% of the votes cast.

Therefore the gap between the two is 20% of the votes which is equal to 500 votes.

Hence the total number of votes cast = 20% of $x = 500$

$$\left(\frac{1}{5}\right) * x = 500$$

$X = 2500$ is the total number of votes cast.

71.4 % of voters cast their votes, it is important to remember percentage to fraction conversion for easier calculation.

14.28 % is $\frac{1}{7}$

So,

71.4% is $\frac{5}{7}$

Now,

$$\left(\frac{5}{7}\right) * x = 2500$$

Hence, the Total number of voters = 3500

Solution 5:

80% of students have passed Maths, we can conclude that 20 % of students failed in Maths.

70% of students have passed Science, we can conclude that 30 % of students failed in Science.

15% failed in both subjects.

So,

$20 \% - 15 \% = 5\%$ failed only in Maths subject.

$30 \% - 15 \% = 15\%$ failed only in Science subject.

Therefore the percentage of students who failed in at least 1 subject

= students who failed only in Maths subject + students who failed only in Science subject + students who failed in both subjects

$$= 5\% + 15\% + 15\% = 35\%$$

From the above, we can find the number of students who passed in both subjects

$$= 100 - 35 = 65\%$$

Now, 65% of $X = 1300$

From the above, we get the total number of students who appeared for the exam.

$$X = 2000$$

Solution 6:

Let the initial price be Rs 100.

When the price of raw materials goes up by 20%, the new price = Rs 120

Labour cost was 25% of the price of raw materials,

Hence initial labour cost = Rs 25

The new labour cost would be 40% of 120 = 48

Initial total cost = 100 + 25 = Rs 125

Total cost for the usage of same raw material quantity after the price rise

$$= 120 + 48 = \text{Rs } 168$$

Now this new cost has to be reduced to the old cost of Rs 125/- hence the percentage reduction

$$= \left[\frac{168 - 125}{168} \right] \times 100$$

$$= 25.59 \%$$

Solution 7:

If the trader kept adding 1 litre of water for every 8 litres of petrol, the petrol to water ratio is 7:1

Hence the quantity of petrol in 80 litres of mixture = $\left(\frac{7}{8}\right) \times 80 = 70$ litres

Quantity of water is 10 litre.

15 litres of petrol added to the mixture.

Hence the final quantity of petrol in the mixture = 70 + 15 = 85

Quantity of water in the mixture remains the same = 10 litres

Hence the new ratio = 85:10

= 17: 2

Solution 8:

The volume of the sphere = $(\frac{4}{3}) * \pi r^3$

The volume of the cone = $(\frac{1}{3}) * \pi * r^2 * h$

The volume of the cone = volume of the sphere

$$(\frac{4}{3}) * \pi * (9)^3 = (\frac{1}{3}) * \pi * r^2 * (24)$$

The radius of the cone = 5.19 cm

Hence diameter of the cone = 10.38 cm

Solution 9:

Number of 11 letter words formed with the letters is

$$11! / (2! \times 2! \times 2!)$$

'I' is repeated twice hence we have 2! In the denominator

'O' is repeated twice hence we have 2! In the denominator

'N' is repeated twice hence we have 2! In the denominator.

Since 3 letters are repeated twice, we have 2! Multiplied thrice in the denominator.

Solution 10: From the table, we can see that the Ace of diamonds is with S.

	Spades	Diamonds	Clubs	Hearts
Ace	P	S	Q	R
Jack	Q	R	S	P
King	R	Q	P	S
Queen	S	P	R	Q

Solution 11:

From the table, we can see that the Jack of hearts is with P.

Solution 12:

From the table, we can see that the Queen of spades is with S.

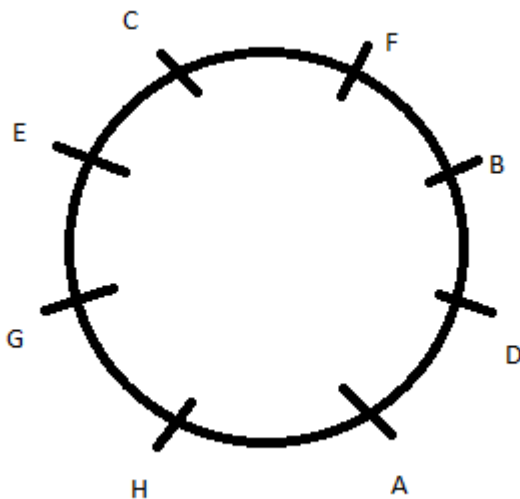
Solution 13:

From the table, we can see that R has the ace of hearts.

Solution 14:

From the table, we can see that S has the king of hearts.

Solution 15: From the figure, we can see that G is between H and E.



Solution 16:

From the figure, we can see that D is on the immediate left of B.

Solution 17:

From the figure, we can see that G is third to the right of F.

