Mock Test 3

Quantitative Aptitude Set-3

Question 1/22

There are 24 Rosogollas and 36 Kulfis in a box, which is given to three friends – Anil, Anand, and Abhilash. Anil eats only Rosogollas at a rate of *x* Rasgullas per minute, Anand eats only Kulfis at a rate of *y* Kulfis per minute, and Abhilash simultaneously eats 2*x* Rosogollas and 3*y* Kulfis per minute, where *x* and *y* are positive integers. All three start eating at the same time, and after two minutes, the number of remaining Rosogollas and Kulfis is the same.
What is the ratio of Kulfis Abhilash eats per minute to Rasgullas Anil eats per minute?

Options:
(a) 6/5
(b) 18/5
(c) 3/2
(d) 9/2

Question 2/22

16 identical fruits are to be distributed among three identical boxes such that no two boxes get the same number of fruits. Each box must get **at least one** fruit and **at most half** the total fruits.
In how many ways can the fruits be distributed?

Question 3/22

In how many ways can a committee comprising three men and two women be formed from ten couples, such that no husband-wife pair is in the committee?

Options:
(a) 2400
(b) 2420
(c) 2520
(d) 2880

Question 4/22

The two roots of the quadratic equation $ax^2 + bx + c = 0$ are both two-digit integers with the same units digit, but $\frac{\Delta}{a^2}$ (where Δ is the discriminant, given as $b^2 - 4ac$) is not a multiple of 100. Which of the following is a possible value of the units digit of $\frac{b}{2a}$?

Select the correct number satisfying the conditions in the question.

Options:
(a) 4
(b) 5
(c) 6
(d) 7

Question 5/22

A bag contains Blue and Red balls in the ratio 5:6. If two red balls are removed, the ratio becomes 10:9.
What was the total number of balls in the bag initially?

Question 6/22

Amar and Ajeeth start from the same point on a circular track of length 5 km and run in opposite directions. Speeds: 6 kmph and 4 kmph. Every time they meet, both double their speed.
How many times will they meet in the first hour?

Options:
(a) Four times
(b) Nine times
(c) Seven times
(d) None of the above

Question 7/22

A copper wire is wound spirally in a single layer from bottom to top on a cylindrical rod of height 56 cm and circumference 2 cm. If there are 45 complete turns, what is the length of the wire?

Options:
(a) 96 cm
(b) 102 cm
(c) 106 cm
(d) 116 cm

Question 8/22

If abcde is a five-digit number with distinct non-zero digits satisfying:

- $a + b + c = 2(d + e)$
- $a + b + d = 3(c + e)$
- $b + d = a + c + e$

How many such numbers are possible?

Options:
(a) 1
(b) 2
(c) 3
(d) More than 3

Question 9/22

Find the value of $(x – y)$, if

- $|x + 2017| - |x - 2017| = 2$
- $|y - 2017| - |y + 2017| = 2$

Options:
(a) 0
(b) 2
(c) 3
(d) Cannot be uniquely determined

Question 10/22

Ravi wrote two numbers, M and N, where M is a two-digit number, with non-zero digits, in base 8, while N is another two-digit number, also in base 8, obtained by reversing the order of the digits in M. If $M^2 - N^2 = P^2$, where P is a natural number, in base 10, find the sum of the digits of P.

Select the correct number satisfying the logic of the given question.

Options:
(a) 1
(b) 2
(c) 3
(d) 4

Question 11/22

If an article is sold at $\frac{P}{2}\%$ (P ≠ 0) discount, a profit of is realized, but if it is sold at P% discount, a loss of $\frac{P}{4}\%$ is incurred. If the article is sold at $\frac{P}{4}\%$ discount, then the percentage of profit or loss made on the article is

Enter the correct numerical answer in the input box provided.

Question 12/22

The sum of the terms $\frac{1}{\sqrt{17+\sqrt{17^2-1}}}+\frac{1}{\sqrt{15+\sqrt{15^2-1}}}+\frac{1}{\sqrt{13+\sqrt{13^2-1}}}+\frac{1}{\sqrt{11+\sqrt{11^2-1}}}+\ldots+\frac{1}{\sqrt{3+\sqrt{3^2-1}}}$ is equal to which of the following?

Select the correct alternative from the given choices.

Options:
(a) 3
(b) 2
(c) 1/√3
(d) √2 - 1

Mock Test 3

Question 13/22

Find the area (in sq. units) bound by the curves $|x + y| = 2$ and $|x - y| = 2$

Enter the correct numerical answer in the input box provided.

Question 14/22

Find the remainder when $(1234567)_8$ is divided by 9.

Select the correct number satisfying the condition given.

Options:
(a) 1
(b) 2
(c) 4
(d) 8

Question 15/22

If *x* is real and the lengths of the sides of a right-angled triangle are (3x + 3) units, (4x + 5) units and (5x + 2) units, find the area (in sq. units) of the triangle, rounded off to the nearest integer.

Type in your answer in the input box provided below the question.

Question 16/22

In a survey on the readership of three newspapers A, B and C, the number of people who read:

- Newspaper A is at least 20 and at most 40
- Newspaper B is at least 50 and at most 70
- Newspaper C is at least 70 and at most 83
- 8 people read all three newspapers
- 85 people read at least two of the three newspapers

Find the **minimum** number of people who read both A and B but not C.

Options:
(a) 2
(b) 4
(c) 5
(d) 7

Question 17/22

Aman wrote a 3-digit number **N**. Bhuvan appended the same number to it, creating a 6-digit number. Charan divided the number by 7 and passed quotient and remainder to Dharan. Dharan added the remainder to the quotient and divided

the result by 11, passing quotient and remainder to Karan. Karan did the same with 13 and gave the final quotient **M** to Aman.
Aman observes:

Options:
(a) M = 2N
(b) M = N + 2
(c) M = N
(d) M = N – 1

Question 18/22

In an MBA college's placement, 100 unique offers were made.
Average compensation of:

- Top 10 = ₹20 LPA
- Top 25 = ₹17 LPA
- Top 40 = ₹16 LPA
- Top 50 = ₹15 LPA

Messi and Ronaldo are among top 40 but not in top 25.
What is the **maximum possible difference** in their compensation?

Options:
(a) ₹4 lakh per annum
(b) ₹5 lakh per annum
(c) ₹6 lakh per annum
(d) ₹60 lakh per annum

Question 19/22

If $\frac{2\log m}{\log n} + \frac{3\log mn}{2\log n} = 2$, and $n = m^k$, then find k.

Type in your answer in the input box provided below the question

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Question 20/22

Not provided. Please share the content of Question 20 so I can include it in the same format.

Question 21/22

Find the **minimum** value of a (a positive integer) such that the sum:
(a + 109) + (a + 110) + … + (a + 135)
is a perfect cube.

Question 22/22

Chris and his wife invited 10 families to their anniversary party. Each invited family has 4 members; the host family has 2. Every person shakes hands with every other person **not from their own family** exactly once.
How many handshakes occurred?

Mock Test 3

Answer Key

1. **(d) 9/2**
2. **5**
3. **(c) 2520**
4. **(b) 5**
5. **44**
6. **(d) None of the above**
7. **(d) 106 cm**
8. **(a) 1**
9. **(b) 2**
10. **(c) 3**
11. **35**
12. **(b) 2**
13. **8**
14. **(c) 4**
15. **18**
16. **(a) 2**
17. **(c) M = N**
18. **(a) ₹4 lakh per annum**
19. **7**
20. **(d) Hari, Chand**
21. **3**
22. **800**