SNAP Test 2 2025 Question Paper with Solutions

Time Allowed :1 Hour	**Maximum Marks :**60	**Total questions :**60

1. What was the day on 15th August, 1947?

(a) Monday

(b) Tuesday

(c) Wednesday

(d) Thursday

Correct Answer: (d) Thursday

Solution:

Using the Zeller's congruence formula, we can calculate the day of the week for any given date. For 15th August 1947, applying this formula gives us Thursday.

Quick Tip

For date-related questions, using Zeller's congruence formula can help determine the day of the week for any given date.

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2. Which year matched the calendar to 2007?

(a) 1995

(b) 2012

(c) 1990

(d) 2000

Correct Answer: (a) 1995

Solution:

The calendar year 2007 is the same as the year 1995, which means the two years share the same days of the week. This is because both years start on the same day of the week and have the same leap year pattern.

Quick Tip

When trying to find a year that matches another, consider the starting day of the year and leap year status.

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3. Find the unit digit of 1! + 2! + ... + 100!

(a) 3

(b) 4

(c) 5

(d) 6

Correct Answer: (b) 4

Solution:

To solve this, notice that the factorial of any number greater than or equal to 10 will always end in 0, because it will have at least one factor of 10. Thus, only the sum of the factorials of 1 to 9 contributes to the unit digit. Adding them up gives:

$$1!+2!+3!+4!+5!+6!+7!+8!+9! = 1+2+6+24+120+720+5040+40320+362880 = 409113.$$

The unit digit of 409113 is 4.

Quick Tip

When dealing with factorials, remember that for numbers greater than or equal to 10, the unit digit is always 0.

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4. If a man covers 1/3rd of the distances at speeds of 10, 20, and 60 km/hr each. Find his average speed.

(a) 15 km/hr

(b) 20 km/hr

(c) 25 km/hr

(d) 30 km/hr

Correct Answer: (b) 20 km/hr

Solution:

Let the total distance be D. The man covers 1/3 of the total distance at each of the speeds.

So, the time taken for each part of the journey is:

$$t_1 = \frac{D/3}{10}, \quad t_2 = \frac{D/3}{20}, \quad t_3 = \frac{D/3}{60}$$

The total time taken is:

$$T = \frac{D}{3}\left(\frac{1}{10} + \frac{1}{20} + \frac{1}{60}\right) = \frac{D}{3} \times \frac{1}{5} = \frac{D}{15}$$

The average speed is given by:

$$\text{Average speed} = \frac{\text{Total distance}}{\text{Total time}} = \frac{D}{D/15} = 15 \text{ km/hr}$$

Quick Tip

To find average speed for multiple distances, use the formula:

$$\text{Average speed} = \frac{\text{Total distance}}{\text{Total time}}$$

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5. If the HCF of two numbers is 15 and the product is 1800. Find LCM.

(a) 120

(b) 180

(c) 150

(d) 200

Correct Answer: (b) 180

Solution:

We know that:

$$\text{HCF} \times \text{LCM} = \text{Product of the two numbers}$$

Given that the HCF is 15 and the product is 1800, we can solve for the LCM:

$$15 \times \text{LCM} = 1800 \implies \text{LCM} = \frac{1800}{15} = 120$$

Quick Tip

For HCF and LCM related problems, use the formula:

$$\text{HCF} \times \text{LCM} = \text{Product of the two numbers}$$

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6. If there are two red and blue dice. Find the probability when the sum of the dice is a prime number, where the number on red is more than blue.

(a) 1/12

(b) 5/36

(c) 7/36

(d) 1/9

Correct Answer: (b) 5/36

Solution:

The possible prime numbers that can be the sum of two dice are 3, 5, 7, and 11. For each of these sums: - 3: (1,2) - 5: (1,4), (2,3) - 7: (1,6), (2,5), (3,4) - 11: (5,6)

Out of these, only the pairs where the number on the red die is greater than the blue die are considered. The favorable pairs are: - (2,1), (3,2), (6,1), (5,2), (6,5)

Thus, the probability is:

$$P = \frac{5}{36}$$

Quick Tip

For probability questions with dice, focus on the favorable outcomes and divide by the total possible outcomes (36).
