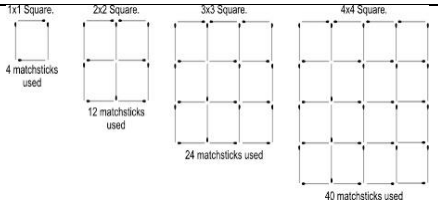
| Q.NO. | Folder Number & Question Code | Topic | Question with Answer Options | | | Image ( If Any ) | Correct Answer (Option - A,B, C,D) |
|---|---|---|---|---|---|---|---|
| 1 | 2_11 Mathematics 5320 | Number system | The product of 100 real numbers is -100. AT LEAST how many of these 100 real numbers must be positive? | | | | C |
| | | Answer Options | | | | | |
| | | Option A | Option B | Option C | Option D | | |
| | | 99 | 2 | 1 | none | | |
| 2 | 2_11 Mathematics 4470 | Number system | For which of these values of y will 2y be an irrational number? | | | | D |
| | | Answer Options | | | | | |
| | | Option A | Option B | Option C | Option D | | |
| | | $y = \sqrt{49}$ | y = -2/13 | y = 22/7 | $y = \sqrt{8}$ | | |
| 3 | 2_11 Mathematics 5327 | Number system | I have two leaking taps in my kitchen. The first tap drips once every 8 seconds and the second one drips once every 12 seconds. When any one tap drips alone, I call it a 'SINGLE DRIP' and when both drip simultaneously, I call it a 'DOUBLE DRIP'. The number of 'SINGLE DRIPS' in an interval of 100 seconds following a 'DOUBLE DRIP' will be | | | | C |
| | | Answer Options | | | | | |
| | | Option A | Option B | Option C | Option D | | |
| | | 3 | 7 | 12 | 18 | | |

<table>
<tr><td rowspan="4">4</td><td rowspan="4">2_11<br>Mathematics<br>5329</td><td>Number System</td><td colspan="2">Shyam's father is 6 times as old as Shyam. Shyam's mother is 25 years old. The average age of this family of three is 20 years. How old is Shyam?</td><td></td><td rowspan="4">D</td></tr>
<tr><td colspan="4">Answer Options</td></tr>
<tr><td>Option A</td><td>Option B</td><td>Option C</td><td>Option D</td></tr>
<tr><td>15 years</td><td>10 years</td><td>7 years</td><td>5 years</td></tr>
<tr><td rowspan="4">5</td><td rowspan="4">2_11<br>Mathematics<br>4475</td><td>Number System</td><td colspan="2">The average of the 1st five natural numbers is</td><td></td><td rowspan="4">C</td></tr>
<tr><td colspan="4">Answer Options</td></tr>
<tr><td>Option A</td><td>Option B</td><td>Option C</td><td>Option D</td></tr>
<tr><td>2.25</td><td>2.5</td><td>3</td><td>3.5</td></tr>
<tr><td rowspan="4">6</td><td rowspan="4">2_11<br>Mathematics<br>5332</td><td>Number System</td><td colspan="2">What will be the remainder when $4^{6788}$ is divided by 5?</td><td></td><td rowspan="4">A</td></tr>
<tr><td colspan="4">Answer Options</td></tr>
<tr><td>Option A</td><td>Option B</td><td>Option C</td><td>Option D</td></tr>
<tr><td>1</td><td>2</td><td>3</td><td>4</td></tr>
<tr><td rowspan="4">7</td><td rowspan="4">2_11<br>Mathematics<br>5333</td><td>Number System</td><td colspan="2">See the following matchstick patterns.<br><br>How many matchsticks would be required to make a similar 10 × 10 square pattern?</td><td> 
</td><td rowspan="4">C</td></tr>
<tr><td colspan="4">Answer Options</td></tr>
<tr><td>Option A</td><td>Option B</td><td>Option C</td><td>Option D</td></tr>
<tr><td>100</td><td>200</td><td>220</td><td>500</td></tr>
<tr><td>8</td><td>2_11<br>Mathematics</td><td>Number System</td><td colspan="2">The pattern of numbers below forms a special sequence called the Fibonacci sequence. Study the first 7 numbers given below and understand the pattern</td><td></td><td>D</td></tr>
</table>

<table>
<tr><td></td><td>4488</td><td></td><td>1,1,2,3,5,8,13 .....<br><br>What could the next two numbers of the sequence be?</td><td></td><td></td></tr>
<tr><td></td><td></td><td colspan="4">Answer Options</td></tr>
<tr><td></td><td></td><td>Option A</td><td>Option B</td><td>Option C</td><td>Option D</td></tr>
<tr><td></td><td></td><td>18 and 23</td><td>18 and 31</td><td>21 and 26</td><td>21 and 34</td></tr>
<tr><td>9</td><td>2_11<br><br>Mathematics<br><br>4490</td><td>Number System</td><td>Mr. Malkani owns a hotel with exactly 100 rooms. The first room is numbered as 1, the second one as 2 and so on. However, being a superstitious man, he has taken care that no room in his hotel bears the number 13 or any of its multiples.<br><br>What is the room number of the 100th room in the hotel?</td><td></td><td>D</td></tr>
<tr><td></td><td></td><td colspan="4">Answer Options</td></tr>
<tr><td></td><td></td><td>Option A</td><td>Option B</td><td>Option C</td><td>Option D</td></tr>
<tr><td></td><td></td><td>87</td><td>100</td><td>107</td><td>108</td></tr>
<tr><td>10</td><td>2_11<br><br>Mathematics<br><br>4491</td><td>Number System</td><td>If x + 5 is a multiple of 3, which of the following MUST be a multiple of 9?</td><td></td><td>C</td></tr>
<tr><td></td><td></td><td colspan="4">Answer Options</td></tr>
<tr><td></td><td></td><td>Option A</td><td>Option B</td><td>Option C</td><td>Option D</td></tr>
<tr><td></td><td></td><td>$x^2 + 25$</td><td>3x + 5</td><td>(x + 5)(x + 5)</td><td>(x + 5)(x + 9)</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>11</td><td>2_11<br><br>Mathematics</td><td></td><td>A certain whole number is multiplied by 90 and then divided by 2. Which of the following could be the result?</td><td></td><td>D</td></tr>
</table>

<table>
<tr><td></td><td>5296</td><td colspan="4">Answer Options</td><td></td></tr>
<tr><td></td><td></td><td>Option A</td><td>Option B</td><td>Option C</td><td>Option D</td><td></td></tr>
<tr><td></td><td></td><td>33228</td><td>52320</td><td>61635</td><td>26550</td><td></td></tr>
<tr><td rowspan="4">12</td><td rowspan="4">2_11<br><br>Mathematics<br><br>4492</td><td>Number System</td><td colspan="2">Adil's bathroom has two taps next to each other and a bucket is kept under them. Tap 1 alone (at full flow) can fill HALF the bucket in 2 minutes and Tap 2 alone (at full flow) can fill HALF the bucket in 3 minutes.<br><br>If both taps are turned on (to full flow), in how much time will the bucket get filled completely?</td><td></td><td rowspan="4">A</td></tr>
<tr><td colspan="4">Answer Options</td></tr>
<tr><td>Option A</td><td>Option B</td><td>Option C</td><td>Option D</td></tr>
<tr><td>2 minutes 24 seconds</td><td>2 minutes 30 seconds</td><td>5 minutes</td><td>10 minutes</td></tr>
</table>

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|---|---|---|---|---|---|
| 13 | 2_11 Mathematics 4465 | NUMBER SYSTEM | 2. 31 × $10^{-3}$ can be written as | | C |
| | | Answer Options | | | |
| | | Option A | Option B | Option C | Option D |
| | | -69. 3 | -2310 | 0. 00231 | $^{1}/_{2.31} \times 10^{3}$ |
| 14 | 2_11 Mathematics 5298 | NUMBER SYSTEM | $\frac{3 \times 10^{3}}{6 \times 10^{4}}$ $is$ | | C |
| | | Answer Options | | | |
| | | Option A | Option B | Option C | Option D |
| | | 0. 5 × $(10)^{3/4}$ | 0. 5 × 10 | $(2 \times 10)^{-1}$ | $2 \times (10)^{-1}$ |

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|---|---|---|---|---|---|
| 15 | 5_29 Mathematics 11411 | Number System | A number N is increased by 100%. The resulting number is then decreased by 100%. The final result will be | | D |

| Answer Options | | | |
|---|---|---|---|
| Option A | Option B | Option C | Option D |
| 50N | N | $N^2$ | 0 |