

<b>Que:1</b>	<b>The unit digit of <math>(1^4 + 2^4 + 3^4 + \dots + 130^4) - (1! + 2! + 3! + \dots + 120!)</math> is</b>
	(A) 0
	(B) 2
	(C) 6
	(D) 9
	(E) 1
<b>Que:2</b>	<p>The question given below is followed by two statements, A and B. Mark the answer using the following instructions:</p> <p><b>Mark (a)</b> if the question can be answered by using the First statement alone</p> <p><b>Mark (b)</b> if the question can be answered by using the Second statement alone</p> <p><b>Mark (c)</b> if the question can be answered by using either statement alone</p> <p><b>Mark (d)</b> if the question can be answered by using both the statements together, but cannot be answered by using either statement alone.</p> <p><b>Mark (e)</b> if the question cannot be answered even by using both the statements together.</p> <p><b>At what price (in \$) did peter, bought the laptop?</b></p> <ol style="list-style-type: none"> <li>Peter sold the laptop at 15% profit.</li> <li>Had he bought it at 10% less &amp; sold it for \$21 less, he would have gained 25%.</li> </ol>
<b>Que:3</b>	<b>Mr &amp; Mrs Thomas have 2 sons and 3 daughters. Each son is planning to have three daughters and each daughter is planning to have 2 sons. What is the probability that they will fulfil their wish?</b>
	(A) $\frac{1}{2}$
	(B) $2C_1 \left(\frac{1}{2}\right)^5$
	(C) $3C_1 \left(\frac{1}{2}\right)^5$
	(D) $\frac{1}{512}$
	(E) $\frac{1}{64}$
<b>Que:4</b>	<b>Find the sum of the series <math>2 + 12 + 36 + 80 + \dots</math> for 50 terms.</b>
	(A) 25125
	(B) 55055
	(C) 25725
	(D) 55725
	(E) None of these
<b>Que:5</b>	The question given below is followed by two statements, A and B. Mark the answer using the following instructions:

	<p><b>Mark (a)</b> if the question can be answered by using the First statement alone</p> <p><b>Mark (b)</b> if the question can be answered by using the Second statement alone</p> <p><b>Mark (c)</b> if the question can be answered by using either statement alone</p> <p><b>Mark (d)</b> if the question can be answered by using both the statements together, but cannot be answered by using either statement alone.</p> <p><b>Mark (e)</b> if the question cannot be answered even by using both the statements together.</p> <p><b>The sum of the first five terms of a geometric progression is 363. What is the first term of the Geometric progression?</b></p> <p>1. All the terms are distinct natural numbers as well as multiples of 3.</p> <p>2. One of the terms is cube of a natural number.</p>
<b>Que:6</b>	<p>The question given below is followed by two statements, A and B. Mark the answer using the following instructions:</p> <p><b>Mark (a)</b> if the question can be answered by using the First statement alone</p> <p><b>Mark (b)</b> if the question can be answered by using the Second statement alone</p> <p><b>Mark (c)</b> if the question can be answered by using either statement alone</p> <p><b>Mark (d)</b> if the question can be answered by using both the statements together, but cannot be answered by using either statement alone.</p> <p><b>Mark (e)</b> if the question cannot be answered even by using both the statements together.</p> <p><b>In a test, three students a, b and c scored combined 214 marks. Student B scored the least. Did A score the highest marks out of three?</b></p> <p>1. A Scored 68 marks</p> <p>2. B Scored 68 marks</p>
<b>Que:7</b>	<p>If <math> 2X - 5  \leq 9</math> and <math> 4Y - 7  \leq 21</math>, then the maximum value of <math> X  -  Y </math>?</p>
	(A) 14
	(B) 7
	(C) 21
	(D) 28
	(E) 0
<b>Que:8</b>	<p>The question given below is followed by two statements, A and B. Mark the answer using the following instructions:</p> <p><b>Mark (a)</b> if the question can be answered by using the First statement alone</p> <p><b>Mark (b)</b> if the question can be answered by using the Second statement alone</p> <p><b>Mark (c)</b> if the question can be answered by using either statement alone</p> <p><b>Mark (d)</b> if the question can be answered by using both the statements together, but cannot be answered by using either statement alone.</p> <p><b>Mark (e)</b> if the question cannot be answered even by using both the statements together.</p> <p><b>Robert have distinct numbers of cars and cycles, both prime and less than 20. In all Robert</b></p>

	<p>owns how many cars and cycles?</p> <ol style="list-style-type: none"> <li>Their sum is a prime number.</li> <li>The sum of their squares is a perfect cube.</li> </ol>
Que:9	<p>In a class consisting of 15 students, the mathematics teacher writes a natural number on the board and asks the class to tell something about the number. Peter, one of the students, says, “This number is a multiple of 1”. Thomas, the second student, says. “This number is a multiple of 2.” This goes on till the 15th student. The teacher notices that all but two of them were correct in their statements and both of them spoke one after the other consecutively. Out of 15, which two were not correct?</p>
(A)	7 <sup>th</sup> and 8 <sup>th</sup>
(B)	8 <sup>th</sup> and 9 <sup>th</sup>
(C)	13 <sup>th</sup> and 14 <sup>th</sup>
(D)	6 <sup>th</sup> and 7 <sup>th</sup>
(E)	9 <sup>th</sup> and 10 <sup>th</sup>
Que:10	<p>Find the number of multiples of 6 that are the values of x or y, for the equation 4X – 3Y = 1. (X and Y both are Natural numbers and less than 1000.)</p>
(A)	523
(B)	1
(C)	0
(D)	524
(E)	None
Que:11	<p>If a is a non-negative real number, simplify the following expression.</p> $a^3 + \frac{1}{a^3} + 7 + \frac{\log\left(a^3 + \frac{1}{a^3} + 7\right) + \log\left(\frac{a^3}{a^6 + 7a^3 + 1}\right)}{a^3 + \frac{1}{a^3} + 7 + \frac{\log\left(a^3 + \frac{1}{a^3} + 7\right) + \log\left(\frac{a^3}{a^6 + 7a^3 + 1}\right)}{a^3 + \frac{1}{a^3} + 7 + \log\left(a^3 + \frac{1}{a^3} + 7\right) + \log\left(\frac{a^3}{a^6 + 7a^3 + 1}\right)}$
(A)	$a^3 + \frac{1}{a^3} + 7 + 3\log a$
(B)	$a^3 + \frac{1}{a^3} + 7$
(C)	1
(D)	0

	(E)	10
<b>Que:12</b>	<b>In a race of 5 km, Adam beats Thomas by 30 seconds and Thomas beats Robert by 70 seconds. If the speed of Adam is 30kmph, by what distance did Thomas beat Robert?</b>	
	(A)	500m
	(B)	600m
	(C)	700m
	(D)	750m
	(E)	900m
<b>Que:13</b>	<b>An Arabian king celebrated his <math>y^{\text{th}}</math> birthday in the year <math>2y^2</math>. In which year did he ascend to the throne if he was 17 years at that time?</b>	
	(A)	1720
	(B)	1953
	(C)	1670
	(D)	2013
	(E)	None of These
<b>Que:14</b>	<b>Find the last three digits of the expression <math>23 * 24 * 25 \dots * 31 * 32</math>.</b>	
	(A)	8,0,0
	(B)	6,0,0
	(C)	4,0,0
	(D)	2,0,0
	(E)	0,0,0
<b>Que:15</b>	<b><math>(X)</math> is an odd function and <math>g(X)</math> is an even then what would be <math>g(f(X))</math>?</b>	
	(A)	Even
	(B)	Odd
	(C)	Neither odd nor even
	(D)	None of above
	(E)	Can't be determine
<b>Que:16</b>	<b>The solution set of the equation <math>(X!)^2 - X! - 30 \geq 0</math> will be</b>	
	(A)	$X \geq 6$
	(B)	$0 \leq x \leq 6$
	(C)	$0 \leq x \leq 3$
	(D)	$X \geq 3$
	(E)	None of these
<b>Que:17</b>	<b>A square is inscribed in a circle. If <math>p_1</math>, is the probability that a randomly chosen point of the square lies within the circle and <math>p_2</math>, the probability that the point lies outside the square then</b>	
	(A)	$p_1 = p_2$

	(B)	$P_1 > P_2$
	(C)	$P_1 < P_2$
	(D)	$P_1 * P_2 = 0$
	(E)	None
<b>Que:18</b>	<b>In a class of 74 students, the number of students who play cricket is twice the number of students, who play hockey, which, in turn, is twice the number of students who play both the games. What is the maximum possible number of students who play only cricket?</b>	
	(A)	52
	(B)	48
	(C)	42
	(D)	40
	(E)	36
<b>Que:19</b>	<b>Which of the following values is the highest?</b>	
	(A)	$\sqrt{3} + \sqrt{10}$
	(B)	$\sqrt{5} + \sqrt{8}$
	(C)	$\sqrt{6} + \sqrt{7}$
	(D)	$\sqrt{4} + \sqrt{9}$
	(E)	3.14
<b>Que:20</b>	<b>The angle of elevation of a pole was observed to be <math>45^\circ</math> from two points B and D on the ground. If the foot of the pole is A, and <math>\angle ABD = 45^\circ</math> and the distance <math>BD=25m</math>, then find the height of the pole.</b>	
	(A)	25m
	(B)	$\frac{25}{\sqrt{2}}m$
	(C)	$\frac{25\sqrt{3}}{\sqrt{2}}m$
	(D)	$\frac{25}{\sqrt{3}}m$
	(E)	37.5m
<b>Que:21</b>	<b>A circle is inscribed in an equilateral triangle and a square is inscribed in the circle. Find the ratio of the area of the triangle to the square?</b>	
	(A)	$\sqrt{3}$
	(B)	3:2
	(C)	$3\sqrt{3}:2$

	(D)	$3\sqrt{3} : 2\sqrt{2}$
	(E)	None
<b>Que:22</b>	<p><b>Mark (a)</b> if the question can be answered by using the First statement alone</p> <p><b>Mark (b)</b> if the question can be answered by using the Second statement alone</p> <p><b>Mark (c)</b> if the question can be answered by using either statement alone</p> <p><b>Mark (d)</b> if the question can be answered by using both the statements together, but cannot be answered by using either statement alone.</p> <p><b>Mark (e)</b> if the question cannot be answered even by using both the statements together.</p> <p><b>PQRS is a cyclic quadrilateral and RS=8 cm. Find the area of PQRS.</b></p> <p>I. One of the angles P, Q, R and S is <math>90^\circ</math>.</p> <p>II. RS and QR are equidistant from the centre of the circle circumscribing PQRS.</p>	
<b>Que:23</b>	<p><b>A cube is taken and all its six faces are painted. Then, the cube is cut by six planes, so as to yield the maximum number of smaller cubes. If 3.5 litres of paint was consumed to paint the original cube, find the additional amount of paint needed to paint all the unpainted faces of all the smaller cubes.</b></p>	
	(A)	3.5 litres
	(B)	11.5 litres
	(C)	7 litres
	(D)	10 litres
	(E)	12 litres
<b>Que:24</b>	<p><b>The top speed of a rail engine is 80km/hr. When pulling a train of wagons, its top speed is reduced by a quantity proportional to the square-root of the number of wagons. When the number of wagons attached to the engine is 25, its top speed is 55 km/hr. If the top speed must be more than 20km/hr, what is the maximum number of wagons that can be attached to the engine?</b></p>	
	(A)	120
	(B)	143
	(C)	121
	(D)	144
	(E)	136
<b>Que:25</b>	<p><b>A certain number of bacterial cells are placed in a petri dish and every hour exactly k% of the bacteria that are present at the beginning of the hour perishes. If it was noted that the number of bacteria that perished in the first two hours is the same as the number of all the bacteria that perished after the first two hours, then what percentage of the initial bacteria were alive after the third hour?</b></p>	
	(A)	26.24%
	(B)	29.37%

	(C)	42.10%																				
	(D)	35.36%																				
	(E)	50.00%																				
<b>Que:26</b>	A cylindrical block of wood of radius 14 cm and height 20 cm, is cut into four identical pieces by making two cuts perpendicular to its base, If three of the four pieces are again glued back together in their original configuration, then what is the total surface area of this new block wood?																					
	(A)	3728 sq.cm																				
	(B)	2704 sq.cm																				
	(C)	3608 sq.cm																				
	(D)	2804 sq.cm																				
	(E)	2723 sq.cm.																				
<b>Que:27</b>	One root of the quadratic equation $ax^2+bx+c=0$ is 2 and one root of the quadratic equation $cx^2+bx+a=0$ is $-\frac{1}{3}$ . What is sum of the roots of the first equation?																					
	(A)	-1																				
	(B)	-2																				
	(C)	-3																				
	(D)	$\frac{5}{3}$																				
	(E)	None of these																				
<b>Directions for Que:28 - Que:30</b>																						
<p>Proportion (in %) of sales volume of laptops out of the total sales volume of PCs in each of nine countries in 2004</p> <table border="1"> <thead> <tr> <th>Country</th> <th>Proportion (%)</th> </tr> </thead> <tbody> <tr> <td>India</td> <td>5%</td> </tr> <tr> <td>Indonesia</td> <td>9%</td> </tr> <tr> <td>Philippines</td> <td>12%</td> </tr> <tr> <td>China</td> <td>16%</td> </tr> <tr> <td>Korea</td> <td>20%</td> </tr> <tr> <td>Taiwan</td> <td>24%</td> </tr> <tr> <td>Australia</td> <td>28%</td> </tr> <tr> <td>Hongkong</td> <td>46%</td> </tr> <tr> <td>Singapore</td> <td>47%</td> </tr> </tbody> </table>			Country	Proportion (%)	India	5%	Indonesia	9%	Philippines	12%	China	16%	Korea	20%	Taiwan	24%	Australia	28%	Hongkong	46%	Singapore	47%
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<b>Que:28</b>	If in 2004, average price of a laptop in India is Rs. 45,000 and that of a desktop in India is Rs. 25,000, what is the value of the total PC market in India given that 28,000 laptops were																					

	<b>sold in India during that year?</b>
(A)	Rs. 2520 Crore
(B)	Rs. 1456 Crore
(C)	Rs. 1330 Crore
(D)	Rs. 72.8 Crore
(E)	None of these
<b>Que:29</b>	<b>If in 2004, the total PC sales volumes in China and Australia are in the ratio of 3:1 and the prices of desktops in the two countries are in the ratio 2:3, what is the ratio of the sales values of desktops in China and Australia?</b>
(A)	7:2
(B)	5:2
(C)	7:3
(D)	6:7
(E)	None of these
<b>Que:30</b>	<b>A manufacture reduced the cost of production of an item by 20%,but left the selling price unchanged, as a result of which his profit (as a percentage of the cost of production) increased by 30 percentage points. What will be his profit percentage, if he reduces the cost of production by a further 25%?</b>
(A)	120%
(B)	100%
(C)	75%
(D)	200%
(E)	90%

Scroll down for answers...



<b>ANSWER KEY</b>			
<b>Que:1</b>	<b>C</b>	<b>Que:17</b>	<b>B</b>
<b>Que:2</b>	<b>D</b>	<b>Que:18</b>	<b>C</b>
<b>Que:3</b>	<b>D</b>	<b>Que:19</b>	<b>C</b>
<b>Que:4</b>	<b>E</b>	<b>Que:20</b>	<b>B</b>
<b>Que:5</b>	<b>E</b>	<b>Que:21</b>	<b>C</b>
<b>Que:6</b>	<b>A</b>	<b>Que:22</b>	<b>E</b>
<b>Que:7</b>	<b>B</b>	<b>Que:23</b>	<b>C</b>
<b>Que:8</b>	<b>B</b>	<b>Que:24</b>	<b>B</b>
<b>Que:9</b>	<b>B</b>	<b>Que:25</b>	<b>D</b>
<b>Que:10</b>	<b>C</b>	<b>Que:26</b>	<b>D</b>
<b>Que:11</b>	<b>B</b>	<b>Que:27</b>	<b>A</b>
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<b>Que:16</b>	<b>D</b>		