

Maths 1a imp qstns essay



**ASSIGN
BUSTER**

WWW. PAPERSHUNT. COM MATHS – FIRST YEAR 1 A VERY IMPORTANT
 QUESTIONS BY WWW. PAPERSHUNT. COM AND HUNT FOR SUCCESS

PUBLICATIONS. LONG ANSWER QUESTIONS Functions : 01. Let $f : A \rightarrow B$, $g : B \rightarrow C$ be bijections. Then $g \circ f : A \rightarrow C$ is a bijection. 02. Let $f : A \rightarrow B$, $g : B \rightarrow C$ be bijection. Then $(g \circ f)^{-1} = f^{-1} \circ g^{-1}$ 03. Let $f : A \rightarrow B$, I_A and I_B be identity functions on A and B respectively. Then $f \circ I_A = f$ and $I_B \circ f = f$ 04. Let $f : A \rightarrow B$ be a bijection. Then $f^{-1} \circ f = I_A$ and $f \circ f^{-1} = I_B$ 05. Let $f : A \rightarrow B$ be a function. Then f is a bijection if and only if there exists a function $g : B \rightarrow A$ such that $f \circ g = I_B$ and $g \circ f = I_A$ and, in this case, $g = f^{-1}$ Mathematical Inductions : 06. Show that $49^n - 16n - 1$ is divisible by 64 for all positive integers n . $n(n^2 - 6n + 11)$ 07. $2 \cdot 3 \cdot 4 \cdot 5 \cdot \dots$ upto n terms $= 3 \cdot 08$. $3 \cdot 5 \cdot 7 \cdot 9 \cdot 11 \cdot 13 \cdot 15 \cdot 17 \cdot 19 \cdot 21 \cdot 23 \cdot 25 \cdot 27 \cdot 29 \cdot 31 \cdot 33 \cdot 35 \cdot 37 \cdot 39 \cdot 41 \cdot 43 \cdot 45 \cdot 47 \cdot 49 \cdot 51 \cdot 53 \cdot 55 \cdot 57 \cdot 59 \cdot 61 \cdot 63 \cdot 65 \cdot 67 \cdot 69 \cdot 71 \cdot 73 \cdot 75 \cdot 77 \cdot 79 \cdot 81 \cdot 83 \cdot 85 \cdot 87 \cdot 89 \cdot 91 \cdot 93 \cdot 95 \cdot 97 \cdot 99$ upto n terms $= 24 \cdot 1 \cdot 1 \cdot 3 \cdot 1 \cdot 3 \cdot 5 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot n(n+1)2(n+2)$ 10. $1 + (1+2) + (1+2+3) + \dots$ upto n terms $= 12$ Multiplication of Vectos : 11. Let θ_1 and θ_2 be non-negative real numbers such that $\theta_1 + \theta_2 = \frac{\pi}{2}$. Then (i) $\cos(\theta_1 + \theta_2) = \cos \theta_1 \cos \theta_2 + \sin \theta_1 \sin \theta_2$ (ii) $\cos(\theta_1 - \theta_2) = \cos \theta_1 \cos \theta_2 - \sin \theta_1 \sin \theta_2$ 12. If in a parallelogram, diagonals are equal, then it is a rectangle. 13. If $0 < A, B < \frac{\pi}{2}$, then $\sin(A+B) = \sin A \cos B + \cos A \sin B$ 14. Find the shortest distance between the skew lines $r = (6i + 2j + 2k) + t(i + 2j + 2k)$: 1: mail us @ com , cell: 798 3699 456 , Our books are available in selected book shops in andhra pradesh. for details visit. www. papershunt. com