**DETERMINANT**

**ASSIGNMENT**

1. If A=$\left[\begin{matrix}2&3&1\\1&2&2\\-3&1&-1\end{matrix}\right]$ find $A^{-1}$ and hence solve the system of equations 2x+y-3z=13, 3x+2y+z=4, x+2y-z=8.
2. Find $\left[\begin{matrix}-4&4&4\\-7&1&3\\5&-3&-1\end{matrix}\right]\left[\begin{matrix}1&-1&1\\1&-2&-2\\2&1&3\end{matrix}\right]$. Use this to solve the system of equations : x-y+z=4, x-2y-2z=9, 2x+y+3z=1.
3. Using matrix method, solve the system of equations :

$$\frac{2}{x}+\frac{3}{y}+\frac{10}{z}=4$$

$$\frac{4}{x}-\frac{6}{y}+\frac{5}{z}=1$$

$$\frac{6}{x}+\frac{9}{y}-\frac{20}{z}=2$$

x,y,z$\ne 0$.

1. The management committee of a residential colony decided to award some of its members (say x) for honesty, some (say y) for helping others and some others (say z) for supervising the workers to keep the colony neat and clean. The sum of all the awardees is 12. Three times the sum of awardees for cooperation and supervision added to two times the number of awardees for honesty is 33. If the sum of the number of awardees for honesty and supervision is twice the number of awardees for helping others ,using matrix method, find the number of awardees of each category.
2. If for any 2x2 square matrix A, A(adjA)=$\left[\begin{matrix}8&0\\0&8\end{matrix}\right]$, then write the value of |A|.
3. If A is an invertible matrix of order 3 and |A|= 5, then find |adjA|.
4. If A is a non-singular matrix of order 3 and |adjA|=|A|k, then write the value of k.
5. If $\left|\begin{matrix}2x&5\\8&x\end{matrix}\right|=\left|\begin{matrix}6&-2\\7&3\end{matrix}\right|$, find the value of x.
6. If A is a skew-symmetric matrix of order 3 then prove that det A = 0.
7. Given A=$\left[\begin{matrix}2&3&1\\1&2&2\\-3&1&-1\end{matrix}\right]$, find the value of det(2A$A^{-1}).$
8. Find the value of x so that the points (1,-5),(-4,5),(x,7) are collinear.
9. Find the nalue of x if the area of the triangle is 35cm2 with vertices (x,4),(2,-6) and (5,4).