

Determinants  
model questions based on  
focus area (2)

- 1, Examine the consistency of the system of equations, if consistent solve it  
 $x + 2y = 2$  and  $2x + 3y = 3$
- 2, If  $A = \begin{bmatrix} 2 & 3 \\ 1 & -4 \end{bmatrix}$  and  $B = \begin{bmatrix} 1 & -2 \\ -1 & 3 \end{bmatrix}$  then verify that  $(AB)^{-1} = B^{-1} \cdot A^{-1}$
- 3, Find inverse of the matrix  $A = \begin{bmatrix} 1 & -1 & 2 \\ 2 & 3 & 5 \\ -2 & 0 & 1 \end{bmatrix}$
- 4, Consider the determinant  $\begin{vmatrix} 2 & -3 & 5 \\ 6 & 0 & 4 \\ 1 & 5 & -7 \end{vmatrix}$  and verify that  $a_{11}A_{31} + a_{12}A_{32} + a_{13}A_{33} = 0$
- 5, Find value of  $x$  if  $\begin{vmatrix} 2 & 4 \\ 5 & 1 \end{vmatrix} = \begin{vmatrix} 2x & 4 \\ 6 & x \end{vmatrix}$
- 6, Find value of  $k$ , if  $A = \begin{bmatrix} 3 & -1 & k \\ 0 & 2 & -1 \\ 3 & -5 & 0 \end{bmatrix}$  is a singular matrix.
- 7, If  $O(A) = 4 \times 4$  then  $|\text{adj} A| = \underline{\hspace{2cm}}$
- 8, Find  $\begin{vmatrix} \cos 80^\circ & \sin 10^\circ \\ \sin 80^\circ & \cos 10^\circ \end{vmatrix}$

