THE NEW INDIAN SCHOOL ,W.L . L

BAHRAIN

MATHEMATICS- CLASS XII

DETERMINANTS M.C.Q TEST DATE:

1. If a ,b , c are in A.P , the find the value of $\begin{vmatrix} x+2 & x+3 & x+2a \\ x+3 & x+4 & x+2b \\ x+4 & x+5 & x+2c \end{vmatrix}$, is

   a) 0 b) 1 c) x d) $2x$

2. For the system of equations:

$$x + 2y + 3z = 1$$
$$2x + y + 3z = 2$$
$$5x + 5y + 9z = 4$$

   a) There is only one solution b) there exist infinitely many solutions

   d) there is no solution d) none of these

3 . For any 2×2 matrix $if\ A(adjA) = \begin{bmatrix} 10 & 0 \\ 0 & 10 \end{bmatrix}$, then $|A|$ is equal to

   a) 20 b) 100 c) 10 d) 0

4.If A is a square matrix of order 3 , with $|A|$ =9 , then write the value of $|2 . adjA|$.

   a) 162 b) 18 c) 648 d) 729,

5.if A is a square matrix of order 2 and $|A|$ =4 , then find the value of $|2\ A\ A^T|$.

   a) 64 b) 32 c)

6.The value of the determinant $\begin{vmatrix} a-b & b+c & a \\ b-c & c+a & b \\ c-a & a+b & c \end{vmatrix}$

   a) $a^3 + b^3 + c^3$ b) 3bc c) $a^3 + b^3 + c^3 - 3abc$ d) none of these

7.if $f(x) = \begin{vmatrix} 0 & x-a & x-b \\ x+a & 0 & x-c \\ x+b & x+c & 0 \end{vmatrix}$, then

   a) $f(a) = 0$ b) $f(b) = 0$ c) $f(0) = 0$ d) $f(1) = 0$

8.The adjoint of matrix $A = \begin{bmatrix} p & q \\ r & s \end{bmatrix}$ is

   a) $\begin{bmatrix} s & -q \\ -r & p \end{bmatrix}$ b) $= \begin{bmatrix} s & q \\ r & -p \end{bmatrix}$ c) $\begin{bmatrix} 0 & 0 \\ 0 & q \end{bmatrix}$ d) none of these

9. If the value of a third order determinant is 12 , then the value of the determinant formed by replacing each element by its cofactor will be

a) 12 b) 144 c) -12 d) 0

10. The matrix $\begin{bmatrix} 5 & 10 & 3 \\ -2 & -4 & 6 \\ -1 & -2 & b \end{bmatrix}$ is a singular matrix , if the value of b is

a) -3 b) 3 c) 0 d) any real number