

**CHAPTER: MATRICES & DETERMINANTS**

1. A column matrix contains _____
 - A. Only one column
 - B. Only one row
 - C. Two or more column
 - D. Two or more rows & Columns
2. A row matrix contains _____
 - A. Only one column
 - B. Only one row
 - C. Two or more rows
 - D. Two or more rows & Columns
3. In a square matrix, the number of rows and columns are _____
 - A. Equal
 - B. Unequal
 - C. Both A & B
 - D. None of these
4. In a diagonal matrix, the non-principle diagonal elements are _____
 - A. Equal
 - B. 0
 - C. 1
 - D. -1
5. In a scalar matrix,
 - A. Principle diagonal elements are same
 - B. Non-principle diagonal elements are zero
 - C. Both A & B
 - D. None of these
6. A matrix is of order 3 x 4 has _____
 - A. 3 Columns and 4 rows
 - B. 3 rows and 4 columns
 - C. Both A & B
 - D. None of these
7. Identify the unit matrix among the following
 - A. $\begin{bmatrix} 1 & 0 \\ 1 & 0 \end{bmatrix}$
 - B. $\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$
 - C. $\begin{bmatrix} 0 & 1 \\ 1 & 0 \end{bmatrix}$
 - D. $\begin{bmatrix} 0 & 1 \\ 0 & 1 \end{bmatrix}$

8. In a given matrix $A = \begin{bmatrix} 2 & -3 & 5 \\ 0 & -5 & 6 \\ -2 & 6 & 3 \end{bmatrix}$, element $a_{31} =$ _____

- A. -5 B. -2 C. 5 D. 3

9. If $A = \begin{bmatrix} -2 \\ 4 \\ 5 \end{bmatrix}$ and $B = [1 \quad 3 \quad -6]$ then $(AB)' =$

- A. $\begin{bmatrix} -2 & -6 & 12 \\ 4 & 12 & -24 \\ 5 & 15 & -30 \end{bmatrix}$ C. $\begin{bmatrix} -2 & 4 & 5 \\ -6 & 12 & 15 \\ 12 & -24 & -30 \end{bmatrix}$
 B. $\begin{bmatrix} -2 \\ 12 \\ -30 \end{bmatrix}$ D. $[-2 \quad 12 \quad -30]$

10. For a symmetric matrix A ,

- A. $A = A'$ B. $A = -A'$ C. $AA = I$ D. $AA^{-1} = I$

11. For a skew symmetric matrix A ,

- A. $A = A'$ B. $A = -A'$ C. $AA = I$ D. $AA^{-1} = I$

12. The value of $\begin{vmatrix} 1 & 2 \\ 3 & 4 \end{vmatrix} =$ _____

- A. 2 B. -2 C. 1 D. -1

13. $\begin{vmatrix} 3 & -1 & -2 \\ 0 & 0 & -1 \\ 3 & -5 & 0 \end{vmatrix} =$ _____

- A. 12 B. -2 C. -12 D. 2

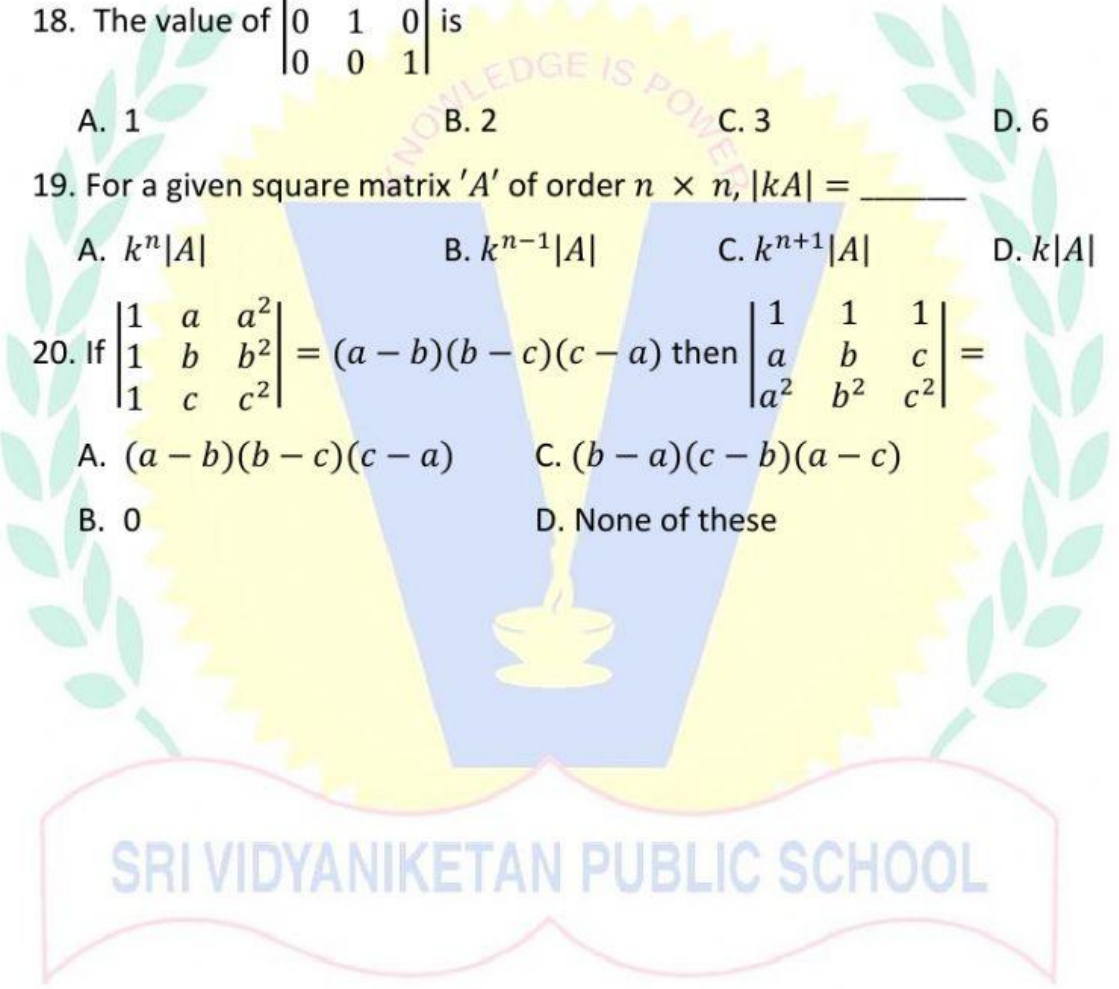
14. The value of the determinant remains _____ if its rows and columns are interchanged

- A. Opposite in sign B. Same C. Zero D. 1

15. If any rows(or columns) are interchanged, then the value of determinant _____

- A. Opposite in sign B. Same C. Zero D. 1

16. If any two rows (or columns) of a determinant are identical (all corresponding elements are same), then value of determinant is ____
- A. Opposite in sign B. Same C. Zero D. 1
17. If, to each element of any row or column of a determinant, the equi-multiples of corresponding elements of other row (or column) are added, then value of determinant ____
- A. Opposite in sign B. Same C. Zero D. 1
18. The value of $\begin{vmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{vmatrix}$ is
- A. 1 B. 2 C. 3 D. 6
19. For a given square matrix 'A' of order $n \times n$, $|kA| =$ ____
- A. $k^n|A|$ B. $k^{n-1}|A|$ C. $k^{n+1}|A|$ D. $k|A|$
20. If $\begin{vmatrix} 1 & a & a^2 \\ 1 & b & b^2 \\ 1 & c & c^2 \end{vmatrix} = (a-b)(b-c)(c-a)$ then $\begin{vmatrix} 1 & 1 & 1 \\ a & b & c \\ a^2 & b^2 & c^2 \end{vmatrix} =$
- A. $(a-b)(b-c)(c-a)$ C. $(b-a)(c-b)(a-c)$
 B. 0 D. None of these



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