



1. Find the transpose of matrix $A = \begin{bmatrix} 0 & -5 \\ 8 & 4 \end{bmatrix}$

- (i) $\begin{bmatrix} -3 & 8 \\ -5 & 4 \end{bmatrix}$ (ii) $\begin{bmatrix} -1 & 8 \\ -5 & 4 \end{bmatrix}$ (iii) $\begin{bmatrix} 0 & 8 \\ -5 & 4 \end{bmatrix}$ (iv) $\begin{bmatrix} 0 & 11 \\ -5 & 4 \end{bmatrix}$ (v) $\begin{bmatrix} 0 & 8 \\ -4 & 4 \end{bmatrix}$

2. Which of the following is an identity matrix ?

- (i) $\begin{bmatrix} 2 & 0 \\ 0 & 1 \end{bmatrix}$ (ii) $\begin{bmatrix} 1 & 0 \\ 0 & 3 \end{bmatrix}$ (iii) $\begin{bmatrix} 1 & -1 \\ 0 & 1 \end{bmatrix}$ (iv) $\begin{bmatrix} 1 & 0 \\ 0 & -1 \end{bmatrix}$ (v) $\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$

3. The number of rows in matrix $A = \begin{bmatrix} 4 & 6 & 5 \\ 4 & 4 & 4 \\ 6 & 6 & 4 \end{bmatrix}$ is

- (i) 3 (ii) 5 (iii) 2 (iv) 1 (v) 4

4. The number of columns in matrix $A = \begin{bmatrix} -1 & -1 \\ 2 & -8 \end{bmatrix}$ is

- (i) 4 (ii) 0 (iii) 1 (iv) 3 (v) 2

5. The order of matrix $A = \begin{bmatrix} -1 \\ -1 \\ 3 \end{bmatrix}$ is

- (i) 3×2 (ii) 3×1 (iii) 2×1 (iv) 4×1 (v) 1×3

6. Which of the following are true?

- a) A column matrix is a square matrix
- b) A null matrix is a square matrix
- c) A row matrix is a square matrix
- d) An identity matrix is a square matrix

- (i) {b,d} (ii) {c,a,d} (iii) {a,d} (iv) {d}

7. Which of the following are true?

- a) A unit matrix has only one row and one column
- b) A scalar matrix has all elements with same value
- c) A 1×1 matrix has only one element
- d) A zero matrix is a square matrix

- (i) {b,d,a} (ii) {b,c,a} (iii) {d,c} (iv) {a,c} (v) {b,a}

8. Which of the following are true?

- a) If a matrix is symmetric, then it is a square matrix
- b) A rectangular matrix cannot be symmetric
- c) If a matrix is symmetric then it is equal to its transpose
- d) A matrix is symmetric if the principal diagonal elements are same

(i) {d,a,b} (ii) {d,c} (iii) {a,b,c} (iv) {d,b} (v) {d,a}

9. If the transpose of a matrix is equal to its additive inverse, that matrix is called ____?

- (i) skew symmetric matrix (ii) identity matrix (iii) scalar matrix (iv) symmetric matrix

10. Which of the following are true ?

- a) Rectangular matrices can also have determinants
- b) A square matrix whose determinant is zero is called a singular matrix
- c) A square matrix whose determinant is zero is called a non-singular matrix
- d) Only square matrices have determinants

(i) {a,b} (ii) {c,d} (iii) {a,d,b} (iv) {a,c,b} (v) {b,d}

11. If the elements of matrix A are multiplied with -1 , we get

- (i) multiplicative identity of A (ii) additive inverse of A (iii) multiplicative inverse of A
(iv) additive identity of A

12. If the elements of matrix A are multiplied with 0 , we get

- (i) additive identity of A (ii) multiplicative identity of A (iii) additive inverse of A
(iv) multiplicative inverse of A

13. Which of the following are true?

- a) An identity matrix is a square matrix
- b) An identity matrix is a scalar matrix
- c) A null matrix is a scalar matrix
- d) A scalar matrix is an identity matrix

(i) {a,b} (ii) {d,b} (iii) {c,b,a} (iv) {c,d,a} (v) {c,a}

14. A 2×4 matrix has

- a) 2 rows and 4 columns
- b) 6 rows and 4 columns
- c) 2 rows and 8 columns
- d) 4 rows and 2 columns

(i) {c,a} (ii) {b,a} (iii) {d,b,a} (iv) {a}

15. Which of the following are true for matrices A and B ?

- a) If $AB = 0$, $A = 0$ or $B = 0$ or both A and B are zero matrices
- b) The orders of $(A \times B)$ and $(B \times A)$ are same
- c) If A and B can be added, they must have the same order
- d) If A and B can be multiplied, they must have the same order

(i) {b,c} (ii) {c} (iii) {d,a,c} (iv) {a,c}

16. If $(A+B) = 0$, then

- a) B is the additive inverse of A
- b) A is the additive inverse of B
- c) A is the additive identity of B
- d) B is the additive identity of A

(i) {c,b,a} (ii) {c,d,a} (iii) {d,b} (iv) {a,b} (v) {c,a}

17. Which of the following is a square matrix?

(i) $\begin{bmatrix} 2 & 2 \end{bmatrix}$ (ii) $\begin{bmatrix} 9 & 9 & 4 \\ 6 & 2 & 5 \end{bmatrix}$ (iii) $\begin{bmatrix} 2 & 2 & 3 \\ 4 & 2 & 5 \end{bmatrix}$ (iv) $\begin{bmatrix} 6 & 8 \\ 6 & 6 \end{bmatrix}$ (v) $\begin{bmatrix} 9 & 9 \\ 8 & 8 \\ 1 & 4 \end{bmatrix}$

18. Which of the following is a rectangular matrix?

(i) $\begin{bmatrix} 9 & 3 & 9 \\ 9 & 9 & 7 \\ 5 & 9 & 2 \end{bmatrix}$ (ii) $\begin{bmatrix} 9 & 3 & 1 \\ 1 & 7 & 2 \\ 9 & 3 & 3 \end{bmatrix}$ (iii) $\begin{bmatrix} 1 & 7 \\ 3 & 5 \end{bmatrix}$ (iv) $\begin{bmatrix} 8 \end{bmatrix}$ (v) $\begin{bmatrix} 8 & 6 & 1 & 5 \\ 8 & 2 & 2 & 8 \\ 2 & 9 & 6 & 3 \end{bmatrix}$

19. Which of the following are true ?

- a) If $AB = 0$, then $A = 0$ or $B = 0$ or both A & B are 0
- b) The order of $(A \times B)$ and $(B \times A)$ is same
- c) If matrices A & B can be added, they must have the same order
- d) If matrices A & B can be multiplied, they must have the same order

(i) {d,a,c} (ii) {c} (iii) {b,c} (iv) {a,c}

20. Which of the following are true for matrices A, B and C ?

- a) $(A \times I) = (I \times A) = I$
- b) $A \times (B + C) = (A \times B) + (A \times C)$
- c) $A \times (B \times C) = (A \times B) \times C$
- d) $(A + B) \times C = (A \times B) + (A \times C)$
- e) $(A \times I) = (I \times A) = A$
- f) $(A \times B) = (B \times A)$

(i) {a,b} (ii) {d,c} (iii) {f,a,e} (iv) {d,b,c} (v) {b,c,e}

21. Which of the following is a row matrix

(i) $\begin{bmatrix} 1 \\ 5 \\ 2 \end{bmatrix}$ (ii) $\begin{bmatrix} 6 \\ 4 \\ 4 \\ 4 \end{bmatrix}$ (iii) $\begin{bmatrix} 5 \\ 9 \end{bmatrix}$ (iv) $\begin{bmatrix} 5 \\ 1 \\ 7 \\ 5 \\ 7 \end{bmatrix}$ (v) $\begin{bmatrix} 6 & 4 & 5 \end{bmatrix}$

22. Which of the following is a column matrix

(i) $\begin{bmatrix} 1 & 2 \end{bmatrix}$ (ii) $\begin{bmatrix} 3 & 7 & 1 \\ 4 & 8 & 4 \\ 4 & 6 & 6 \end{bmatrix}$ (iii) $\begin{bmatrix} 4 & 1 & 4 & 7 \end{bmatrix}$ (iv) $\begin{bmatrix} 9 & 4 & 6 \end{bmatrix}$ (v) $\begin{bmatrix} 8 \\ 4 \end{bmatrix}$

23. Which of the following is a diagonal matrix ?

(i) $\begin{bmatrix} -4 & 0 & 0 \\ 0 & -4 & 0 \\ 0 & 0 & 6 \end{bmatrix}$ (ii) $\begin{bmatrix} -4 & 0 & 0 \\ 0 & -4 & 0 \\ 3 & 0 & 6 \end{bmatrix}$ (iii) $\begin{bmatrix} -4 & 0 & -4 \\ 0 & -4 & 0 \\ 6 & 0 & 6 \end{bmatrix}$ (iv) $\begin{bmatrix} -4 & 0 & 3 \\ 0 & -4 & 0 \\ 0 & 0 & 6 \end{bmatrix}$ (v) $\begin{bmatrix} 0 & 0 & -4 \\ 0 & -4 & 0 \\ 6 & 0 & 0 \end{bmatrix}$

The principal diagonal elements of the given matrix

24. $\begin{bmatrix} 5 & 7 \\ -7 & -9 \end{bmatrix}$ are

- (i) 5, -7 (ii) 7, -7 (iii) 5, -9 (iv) 7, -9

The principal diagonal elements of the given matrix

25. $\begin{bmatrix} -6 & 2 & 1 \\ 9 & -2 & -8 \\ -4 & -1 & -5 \end{bmatrix}$ are

- (i) -6, 1, -2 (ii) 2, 9, -1 (iii) 1, -2, -4 (iv) -6, -2, -5

26. If $A = \begin{bmatrix} 5 & -4 \\ -1 & -8 \end{bmatrix}$ and the sum of the values of

elements of matrix $kA = -64$, find k

- (i) 5 (ii) 11 (iii) 7 (iv) 8 (v) 9

Assignment Key

1) (iii)	2) (v)	3) (i)	4) (v)	5) (ii)	6) (iv)
7) (iv)	8) (iii)	9) (i)	10) (v)	11) (ii)	12) (i)
13) (i)	14) (iv)	15) (ii)	16) (iv)	17) (iv)	18) (ii)
19) (ii)	20) (v)	21) (v)	22) (v)	23) (i)	24) (iii)
25) (iv)	26) (iv)				