1. If the order of the matrix is m×n, then how many elements will there be in the matrix?
   a) mn
   b) $m^2 n^2$
   c) mn^2
   d) 2mn
2. 2. Which of the following is a matrix of the order 2×2 where the equation of the elements is given by $a_{ij}=i+j$.
   a) $A=\begin{bmatrix} 1 & 1 \\ 1 & 1 \end{bmatrix}$
   b) $A=\begin{bmatrix} 4 & 5 \\ 4 & 1 \end{bmatrix}$
   c) $A=\begin{bmatrix} 2 & 3 \\ 3 & 4 \end{bmatrix}$
   d) $A=\begin{bmatrix} 1 & 2 \\ 1 & 2 \end{bmatrix}$
3. 3. What is the order of the matrix $A=\begin{bmatrix} 3 & 5 \\ 7 & 9 \end{bmatrix}$?
   a) 2×3
   b) 2×2
   c) 3×3
   d) 4×4
4. 4. The order of the matrix $A=\begin{bmatrix} 1 & 5 & 9 \\ 4 & 8 & 6 \end{bmatrix}$ is 2×3.
   a) True
   b) False
5. . Which of the following is not a possible ordered pair for a matrix with 6 elements.
   a) (2,3)
   b) (3,2)
   c) (1,6)
   d) (3,1)
6. Which of the following is the order of the 4x3 0rder

a) $A=\begin{bmatrix} 3 & 4 \\ 3 & 5 \\ 4 & 5 \end{bmatrix}$

b) $A=\begin{bmatrix} 1 & 2 & 3 \\ 5 & 7 & 9 \end{bmatrix}$

c) $A=\begin{bmatrix} 4 & 5 & 6 \\ 5 & 2 & 6 \\ 6 & 4 & 7 \\ 7 & 7 & 1 \end{bmatrix}$

d) $A=\begin{bmatrix} 1 \\ 4 \\ 6 \end{bmatrix}$

7. Consider the matrix $A=\begin{bmatrix} 2 & 4 & 5 \\ 1 & 6 & 4 \\ 2 & 8 & 9 \end{bmatrix}$. Find the element a_{32}.

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a)5
b) 6
c) 4
d) 8

). What is the order of the matrix $A=\begin{bmatrix} 2 & 3 \\ 1 & 9 \\ 5 & 2 \end{bmatrix}$?

a)2×3

b) 3×2
c) 2×2
d) 3×3

. Given a matrix $A=\begin{bmatrix} 2 & 3 & 9 \\ 3 & 9 & 6 \\ 1 & 6 & 7 \end{bmatrix}$, which of the elements a_{ij} follows the condition i=j

a) 9, 9, 1
b) 2, 9, 7
c) 2, 3, 9
b) d) 2, 3, 1

10. Which of the following is not the property of transpose of a matrix?
a) (A')'=A
b) (A+B)'=A'+B'
c) (AB)'=(BA)'
d) (kA)'=KA'

11 Find the transpose of $A=\begin{bmatrix} 1 & -2 \\ -1 & 5 \end{bmatrix}$.

a) $A=\begin{bmatrix} -1 & -2 \\ -1 & -5 \end{bmatrix}$

b) $A=\begin{bmatrix} 1 & 2 \\ 1 & 5 \end{bmatrix}$

c) $A=\begin{bmatrix} -1 & 2 \\ -1 & 5 \end{bmatrix}$

d) $A=\begin{bmatrix} 1 & -1 \\ -2 & 5 \end{bmatrix}$

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3. If A= $\begin{bmatrix} 2 \\ 7 \\ 8 \end{bmatrix}$, B=$\begin{bmatrix} -3 & 4 & 1 \end{bmatrix}$, find (AB)'.

a) (AB)'= $\begin{bmatrix} -6 & -21 & -24 \\ 8 & 28 & 32 \\ 2 & 7 & 8 \end{bmatrix}$

b) (AB)'= $\begin{bmatrix} -6 & 8 & 2 \\ -21 & -28 & 7 \\ -24 & 32 & 8 \end{bmatrix}$

c) (AB)'= $\begin{bmatrix} 6 & 21 & 24 \\ -8 & 28 & 7 \\ -2 & 7 & -8 \end{bmatrix}$

d) (AB)'= $\begin{bmatrix} -6 & 8 & -21 \\ 8 & 2 & 7 \\ -24 & 8 & 2 \end{bmatrix}$

13.

4. If A'= $\begin{bmatrix} 8 & 2 \\ 6 & 4 \end{bmatrix}$ and B'= $\begin{bmatrix} 9 & 5 \\ 7 & 3 \end{bmatrix}$. Find (A+2B)'.

a) $\begin{bmatrix} 26 & 20 \\ 10 & 12 \end{bmatrix}$

b) $\begin{bmatrix} 26 & 12 \\ 20 & 10 \end{bmatrix}$

c) $\begin{bmatrix} 26 & 10 \\ 20 & 12 \end{bmatrix}$

d) $\begin{bmatrix} 26 & 20 \\ 12 & 10 \end{bmatrix}$

14.

5. If A= $\begin{bmatrix} cosx & -sinx & -cosx \\ sinx & -cosx & sinx \end{bmatrix}$. Find A'A.

a) $\begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$

b) $\begin{bmatrix} 1 & 0 & 1 \\ 1 & 0 & 1 \\ 1 & 0 & 1 \end{bmatrix}$

c) $\begin{bmatrix} 1 & 0 & 1 \\ 0 & 1 & 0 \\ 1 & 0 & 1 \end{bmatrix}$

d) $\begin{bmatrix} 1 & 0 & 0 \\ 1 & 1 & 0 \\ 1 & 1 & 1 \end{bmatrix}$

15.

7. If matrix A= $\begin{bmatrix} 4 & 1 \\ 6 & 2 \end{bmatrix}$ and B= $\begin{bmatrix} -1 & 3 \\ 2 & 1 \\ 6 & 6 \end{bmatrix}$, then find A' B'.

a) $\begin{bmatrix} 14 & 14 \\ 5 & 4 \\ 6 & 18 \end{bmatrix}$

b) $\begin{bmatrix} 14 & 5 \\ 14 & 4 \\ 6 & 18 \end{bmatrix}$

c) $\begin{bmatrix} 14 & 14 & 60 \\ 5 & 4 & 18 \end{bmatrix}$

d) $\begin{bmatrix} 14 & 14 & 18 \\ 5 & 4 & 60 \end{bmatrix}$

16. Which of the following is the reversal law of transposes?
a) (A-B)'=B'-A'
b) (AB)'=B'A'
c) (AB)'=(BA)'
d) (A+B)'=B'+A

17. Which of the following conditions holds true for a symmetric matrix?
a) A=-A'
b) A=A'
c) A=IA
d) A=|A|

18. Which of the following conditions holds true for a skew-symmetric matrix?
a) A=IA
b) A=|A|
c) A=A'
d) A=-A'

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9. If A=$\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$, then which of the following statement is incorrect?
a) A is a skew-symmetric matrix
b) A is a square matrix
c) A is a symmetric
d) A is an identity matrix

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10. If A=$\begin{bmatrix} a & b \\ c & d \end{bmatrix}$, then which of the following is skew-symmetric?
a) AA'
b) A+A'
c) 2(A+A')
d) A-A'

ANSWERS-1.(A) 2.(C) 3.(B) 4.(A) 5.(D) 6.(C) 7.(D) 8.(B) 9.(B) 10.(C)

11.(D) 12.(A) 13.(B) 14.(C) 15.(C) 16.(B) 17.(B) 18.(D) 19.(A) 20.(D)