VISION VICTORY TEST SERIES
CLASS 12
MATHEMATICS

Time :-1:30 HR

Q 1 Find order of Matrix A = $\left[a_{ij} \right]_{m \times n}$.

Mark (1)

Q 2 If a matrix has 24 elements, what are the possible orders it can have ? What, if it has 13 elements?

Mark (1)

Q 3 If A and B are two equal square matrices such that A = $\begin{bmatrix} x & y \\ 2 & 3 \end{bmatrix}$ and

B = $\begin{bmatrix} 1 & 4 \\ 2 & 3 \end{bmatrix}$ then find the value of x, y.

Mark (1)

Q 4 If A and B are two square matrices and K is a scalar quantity then K(A+B) = _____.

Mark (1)

Q 5 Construct 2×2 matrix $A = \left[a_{ij} \right]$ whose elements are given by $a_{ij} = \dfrac{i}{j}$.

Mark (1)

Q 6 A square matrix in which all elements of diagonal are 1 and rest all elements are zero then such a matrix is said to be _____

Mark (1)

Q 7 Define Identity matrix.

Mark (1)

Q 8 If $A = \begin{bmatrix} 1 & 0 \\ 2 & 4 \end{bmatrix}$ and $B = \begin{bmatrix} 2 & -1 \\ 3 & 7 \end{bmatrix}$, find $A + B$.

Mark (1)

Q 9 If $A = \begin{bmatrix} 1 & 3 & 5 \\ 2 & 4 & 6 \\ 3 & 5 & 7 \end{bmatrix}$ find the diagonal elements of A.

Mark (1)

Q 10 If A = $\begin{bmatrix} a & 0 \\ 0 & -a \end{bmatrix}$ and B = $\begin{bmatrix} 0 & a \\ a & 0 \end{bmatrix}$ find the value of AB.

Mark (1)

Q 11 If $A = \begin{bmatrix} 1 & 0 \\ 0 & -1 \end{bmatrix}$ and $B = \begin{bmatrix} a & 0 \\ 0 & -a \end{bmatrix}$ satisfying $2A + B = 0$ then find the value of a.

Mark (1)

Q 12   If $A = \begin{bmatrix} a & -a \\ b & -b \end{bmatrix}$ and $B = \begin{bmatrix} b & a \\ -b & -a \end{bmatrix}$ find the Value of $2A - 2B$

Mark (1)

Q 13 Find order of Matrix A = $\begin{bmatrix} a_{ij} \end{bmatrix}_{m \times n}$

Mark (1)

Q 14 If A and B are two equal square matrices such that A = $\begin{bmatrix} x & y \\ 2 & 3 \end{bmatrix}$ and

B = $\begin{bmatrix} 1 & 4 \\ 2 & 3 \end{bmatrix}$ then find the value of x, y .

Mark (1)

Q 15 Construct 2×2 matrix $A = \begin{bmatrix} a_{ij} \end{bmatrix}$ whose elements are given by $a_{ij} = \dfrac{i}{j}$.

Mark (1)

Q 16 Show that for any square matrix A with real numbers entries, A+A' is a symmetric matrix and A-A' is a skew symmetric matrix.

Marks (3)

Q 17 If A, B are symmetric matrix of same order, then show that $AB - BA$ is a skew- symmetric matrix.

Marks (3)

Q 18 If $A = \begin{bmatrix} -2 \\ 4 \\ 5 \end{bmatrix}$, B=$\begin{bmatrix} 1 & 3 & -6 \end{bmatrix}$, verify that $(AB)' = B'A'$

Marks (3)

Q 19 If $A = \begin{bmatrix} 3 & -2 \\ 4 & -2 \end{bmatrix}$ and I=$\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$ find k, so that $A^2 = kA - 2I$.

Marks (3)

Q 20 Find X and Y if $X+Y = \begin{bmatrix} 5 & 2 \\ 0 & 9 \end{bmatrix}$ and $X-Y = \begin{bmatrix} 3 & 6 \\ 0 & -1 \end{bmatrix}$

Marks (3)

Q 21 If $A = \begin{bmatrix} 8 & 0 \\ 4 & -2 \\ 3 & 6 \end{bmatrix}$ and $B \begin{bmatrix} 2 & -2 \\ 4 & 2 \\ -5 & 1 \end{bmatrix}$ then find the matrix X , such that

$A+X=B$.

Marks (3)

Q 22 Given $A = \begin{bmatrix} 5 & -1 & 0 \\ 7 & 3 & 4 \end{bmatrix}$ and B $\begin{bmatrix} -3 & 2 & 0 \\ -5 & 6 & 2 \end{bmatrix}$. Find $A+B, A-B$

CBSE Sample Papers | CBSE Guess Papers | CBSE Practice Papers | Important Questions | CBSE PSA |
CBSE OTBA | Proficiency Test | 10 Years Question Bank | **CBSE Guide** | CBSE Syllabus | Indian Tutors |
Teacher' Jobs CBSE eBooks | Schools | Alumni | CBSE Results | CBSE Datesheet | **CBSE News**

Marks (3)

Q 23 Find the value of x, y and z if :

$$\begin{bmatrix} x+y & 2 \\ 5+z & xy \end{bmatrix} = \begin{bmatrix} 6 & 2 \\ 5 & 8 \end{bmatrix}$$

Marks (3)

Q 24 Construct a 2×2 matrix $A = \begin{bmatrix} a_{ij} \end{bmatrix}$ if $a_{ij} = \dfrac{(i+j)^2}{2}$

Marks (3)

Q 25 In the Matrix $A = \begin{bmatrix} 2 & 5 & \sqrt{7} & 3 \\ 35 & 6 & 5/3 & -1 \\ \sqrt{3} & 1 & 6 & 0 \end{bmatrix}$

(i)   Write the order of the matrix.

(ii)   Write the elements $a_{13}, a_{21}, a_{23}, a_{34}$.

Marks (3)

Q 26 Show that for any square matrix A with real number entries, A+A' is a symmetric matrix and A-A' is a skew symmetric matrix.

Marks (3)

Q 27 Find the matrix X so that $X \begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \end{bmatrix} = \begin{bmatrix} -7 & -8 & -9 \\ 2 & 4 & 6 \end{bmatrix}$.

Marks (4)

Q 28 If $A = \begin{bmatrix} \cos\theta & \sin\theta \\ -\sin\theta & \cos\theta \end{bmatrix}$ then prove that $A^n = \begin{bmatrix} \cos n\theta & \sin n\theta \\ -\sin n\theta & \cos n\theta \end{bmatrix}, n \in N$

Marks (4)

Q 29 Express $A = \begin{bmatrix} 3 & 3 & -1 \\ -2 & -2 & 1 \\ -4 & -5 & 2 \end{bmatrix}$ as the sum of a symmetric and a skew-symmetric Matrix.

Marks (4)

Q 30 Find the matrix X so that $X \begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \end{bmatrix} = \begin{bmatrix} -7 & -8 & -9 \\ 2 & 4 & 6 \end{bmatrix}$

Marks (4)

Q 31 Obtain the inverse of the matrix $A = \begin{bmatrix} 1 & 1 & 2 \\ 0 & 2 & 3 \\ 3 & 1 & 1 \end{bmatrix}$ using elementary operations.

Marks (6)

Q 32 If $A = \begin{bmatrix} 0 & -\tan\frac{\alpha}{2} \\ \tan\frac{\alpha}{2} & 0 \end{bmatrix}$ and I is the identity matrix of order 2,

show that $I + A = (I - A)\begin{bmatrix} \cos\alpha & -\sin\alpha \\ \sin\alpha & \cos\alpha \end{bmatrix}$

Marks (6)

Q 33 If $A = \begin{bmatrix} 0 & -\tan\frac{\alpha}{2} \\ \tan\frac{\alpha}{2} & 0 \end{bmatrix}$ and I is the identity matrix of order 2

show that $I + A = (I - A)\begin{bmatrix} \cos\alpha & -\sin\alpha \\ \sin\alpha & \cos\alpha \end{bmatrix}$

Marks (6)

Learning MANTRA@DIKSHA
(WHERE EDUCATION IS PASSION)

TUTORIAL CLASSES AVAILABLE FOR 3RD TO 12TH
ENGINEERING AND MEDICAL ENTRANCE PREPARATORY CLASSES AVAILABLE
HEAD OFFICE(Test Center):-M-65,GR FLOOR ,GAUTAM NAGAR,NEW DELHI-110049
BRANCH OFFICE (Evaluation center):-C-93,POCKET 6,KENDRIYA VIHAR-2,NOIDA SEC-82
PHONE/FAX:-011-41642844,09871581508
dikshaworld@gmail.com,dikshaworld@rediffmail.com