ECAT Mathematics Chapter 5 Matrices and Detarminants Online Test

Sr	Questions	Answers Choice
1	Trival solution of homogeneous linear equation is	A. (0, 0, 0) B. (1, 2, 3) C. (1, 3, 5) D. a, b and c
2	Question Image	A. 1 B. -1 C. 0 D. I
3	Question Image	C. 16 D. None of these
4	Question Image	
5	If A and B are skew-symmetric then (AB)t is	A. At Bt B. AB C. -AB D. BA
6	Question Image	
7	Every identity matrix is	A. Row-vector B. Scalar C. Column-vector D. All
8	Question Image	A. 5 C. -5 D. none
9	Question Image	A. 3, -3, 11 B. 3, 3, 11 C. -3, 3, -11 D. -3, -3, 11
10	Question Image	D. all are correct
11	Question Image	A. 16 B. 256 C. 64 D. 1024
12	Trival solution of homogeneous linear equation is	A. (0, 0, 0) B. (1, 2, 3) C. (1, 3, 5) D. a.b and c
13	Let A is a 3 x 3 matrix and B is its adjoint matrix. If |B| = 64, then |A| =	
14	The square matrix A is skew Hermitian when (A)'=	A. A B. A' C. -A D. A
15	If the matrices A and B are conformable for multiplication then $(AB)^t$= _____	A. AB B. A^tB^t C. B^tA^t D. A^tB
16	System of linear equation is inconsistent if	A. System has no solution B. System has one solution C. System has two solution D. None of above
17	Question Image	A. x =0, y =4 B. x = -1, y = 2 C. x = 2, y = 3 D. x = 3, y = 4
18	Question Image	A. -a -b -c B. 1 C. 0 D. -1

19	Question Image	
20	An equation of the form ax + by = k is homogeneous linear equation when:	
21	A square matrix A for which A^t= -A is called a	A. Column matrix B. Symmetric matrix C. Skew-symmetric matrix D. Row matrix
22	Question Image	
23	A diagonal matrix in which the diagonal elements are equal is called a	A. Null matrix B. Identity matrix C. Scalar matrix D. Row matrix
24	Question Image	A. A²- 5A + 7I = 1 B. 2A²- 3A + 7I = 0 C. A²- 5A + I = 0 D. A²- 5A + 7I = 0
25	A square matrix A = [aij] is lower triangular matrix when	A. aij = 0 for all i<j B. bij = 0 C. cij = 0 D. dij = 0
26	Question Image	A. 0 B. 1 C. -A D. -1
27	Which of the following is an identity matrix?	D. none of these
28	Question Image	A. Hermitian matrix B. Skew-hermitian matrix C. Symmetric matrix D. Identity matrix
29	A and B be two square matrices and if their inverse exist, the $(AB)^{-1}$=	A. A⁻¹B⁻¹ B. AB⁻¹ C. A⁻¹B D. B⁻¹A⁻¹
30	Question Image	
31	Question Image	A. K/6 B. 2K C. 3K D. 6K
32	A non-homogeneous linear system AX = B has no solution if	A. |A| = 0 B. |A|≠ 0 C. Rank (a) = no of variables D. Rank > no of variables
33	Question Image	A. (2x+a+b+c) B. (a+b+c) C. (a+b+c+x) D. 0
34	Question Image	A. I B. 14 I C. 0 D. None of these
35	The transport of a square matrix is a	A. Row matrix B. Column matrix C. Square matrix D. Null matrix
36	Matrices A = [aij] 2 x 3 and B = [bij] 3 x 2 are suitable for	A. BA B. A2 C. AB D. B2
37	Question Image	
38	Question Image	A. -3 B. -7 C. 1 D. 0
39	Question Image	A. Square matrix B. Row matrix C. Symmetric matrix D. Null matrix

40	The order of the matrix A is 3 x 5 and that of B is 2 x 3.The order of the matrix BA is	A. 2 x 3 B. 3 x 2 C. 2 x 5 D. 5 x 2
41	Question Image	A. k3 B. 0 C. 3k D. k6
42	Question Image	A. Diagonal matrix B. Scalar matrix C. Triangular matrix D. Identity matrix
43	Question Image	A. a = -1/2, b = -1 B. a = 1, b = 2 C. a = 2, b = 3 D. None of above
44	Minor of an element $a_{ij}$is denoted by	A. M_{ij} B. A_{ij} C. |A| D. None of these
45	For non-trival solution |A| is	A. non zero B. A = 0 C. |A| = 0 D. At = 0
46	Question Image	
47	(ABC)' =	A. CBA' B. CBA C. C' B' A' D. None of these
48	Question Image	A. 2 B. 4 C. 6 D. 8
49	For any positive integer n	A. ABn = Bn A ⇔ AB = BA B. ABn = Bn A⇔ A,B are square matrices and AB = BA C. ABn = BnA⇔ A + B D. ABn = BnA ⇔ A and B are square matries
50	The order of the matrix A is 3 x 2 and that of B is 2 x 3. The order of the matrix BA is	A. 3 x 3 B. 3 x 2 C. 2 x 5 D. 5 x 2
51	A square matrix A = [aij] is upper triangular when	A. cij = 0 B. bij = 0 C. aij = 0 for all i > j D. dij = 0
52	A square matrix all of whose elements except the main diagonal are zeros is called a	A. Null matrix B. Singular matrix C. Symmetric matrix D. Diagonal matrix
53	The transpose of a column matrix is a _____	A. Zero matrix B. Diagonal matrix C. Column matrix D. Row matrix
54	Question Image	
55	Question Image	A. a²b²c² B. 4a²b²c² C. 4abc D. None
56	If A is any matrix then its additive inverse is	A. A B. A⁻¹ C. A^t D. -A
57	Question Image	A. 0 B. abc C. 1/abc D. None of these
		A. Diagonal matrix

58	Question Image	A. Diagonal matrix B. Scalar matrix C. Triangular matrix D. Identity matrix
59	If A is a skew-symmetric matrix of order n and P, any square matrix of order n, prove that P' AP is	A. Skew-symmetric B. Symmetric C. Null D. Diagonal
60	Question Image	A. 2s² B. 2s³ C. s³ D. 3s³
61	For a square matrix A, if A = At, then A is called	A. Matrix B. Transpose C. Symmetric D. Non-symmetric
62	Question Image	A. 6, -12, -18 B. -6, 4, 9 C. -6, -4, -9 D. -6, 12, 18
63	Question Image	D. all are correct
64	Question Image	
65	If A is a skew-symmetric matrix of order n and P, any square matrix of order n.prove that P' AP is	A. Skew-symmetric B. Symmetric C. Null D. Diagonal
66	Question Image	A. 1, 2, 3 B. 1, 5, 9 C. 2, 5, 8 D. 3, 6, 9
67	Let A be a square matrix. Then, 1/2 (A-A') is	A. Skew-symmetric B. Symmetric C. Null D. None of the above
68	Question Image	A. 1 B. 0 C. -1 D. 2
69	System of linear equations is inconsistent if	A. System has no solution B. System has one solution C. System has two solution D. None of above
70	Question Image	A. 2 x 2 B. 2 x 3 C. 3 x 2 D. 3 x 3
71	Question Image	A. Singular B. Non-singular C. Adjoint D. None of above
72	Question Image	
73	Question Image	
74	A matrix with a single row is called a	A. Column matrix B. Row matrix C. Null matrix D. Identity matrix
75	Question Image	A. Orthogonal B. Involutary C. Idempotent D. Nilpotent
76	If A = [aij]mxpand B =[aij]pxnthen order of BA is	A. m x n B. p x n C. n x m D. None of these
77	Question Image	A. At B. -A C. A D. A-1
		A. Column matrix

78	A matrix with a single column is called	A. Column matrix B. Row matrix C. Identity matrix D. Null matrix
79	The matrix A is Hermitian when (A)' =	A. A B. -A C. A D. A'
80	Question Image	A. Zero matrix B. Diagonal matrix C. Column matrix D. Scalar matrix
81	Question Image	A. Scalar matrix B. Identity matrix C. Null matrix D. Symmetric matrix
82	If order of A is m x n, then order of A^t is	A. m x m B. n x n C. m x n D. n x m
83	A square matrix A = [aij] is lower triangular matrix when:	A. aij = 0 for all i < j B. bij = 0 C. cij = 0 D. dij =0
84	Question Image	
85	Question Image	
86	If A is a non singular matrix then A^{-1}= _____	
87	A = [3] is a/an	A. Square matrix B. Scalar matrix C. Diagonal matrix D. Identity matrix
88	If there are m rows and n columns in a matrix then its order is	A. m x n B. m x m C. n x n D. n x m
89	If for the matrix A,A5 = 1,then A-1=	A. A2 B. A3 C. A D. None of above
90	The transport of a rectangular matrix is a	A. Square matrix B. Rectangular matrix C. Row matrix D. Column matrix
91	Matrices are represented by	A. Natural numbers B. Real numbers C. Small letters D. Capital letters
92	Question Image	A. (2x4) B. (2x7) C. (2x3) D. (7x2)
93	For non-trival solution |A| is	A. A = 0 B. A^t= 0 C. |A| = 0 D. None of these
94	(ABC)' =	A. CBA' B. CBA C. C'B'A D. C'B'A'
95	Question Image	A. 3K B. K2 C. K3 D. K
96	A square matrix A for which A^t= A is called a	A. Column matrix B. Symmetric matrix C. Skew-symmetric matrix D. Row matrix
		A. Diagonal matrix B. Scalar matrix

97	Question Image	C. Triangular matrix D. Identity matrix
98	Question Image	A. Null matrix B. Triangular matrix C. Unit matrix D. Rectangular matrix
99	A diagonal matrix is always	A. Identity B. Triangular C. Scalar D. Non-singular
100	The square matrix A is skew-symmetric when At=	A. -B B. -C C. -A D. -D
101	Question Image	
102	The number of non zero rows in echelon form of a matrix is called	A. Order of matrix B. Rank of matrix C. Row operation D. None of these
103	Question Image	A. 4A - 3I B. 3A - 4I C. A - I D. None of these
104	If A = $[a_{ij}]$ is (m x n) matrix, then transpose of A is of the order	A. m x m B. m x n C. n x n D. n x m
105	Question Image	
106	Question Image	A. 0 B. 1 C. 2 D. 3
107	Question Image	A. 9/4 B. 4/9 C. 1 D. None of these
108	For trival solution |A| is	A. A B. |A| is non zero C. A = 0 D. None of these
109	If for the matrix A, A^5= I, then A^{-1}=	A. A² B. A³ C. A D. None of above
110	The transport of a null matrix is	A. Row matrix B. Column matrix C. Square matrix D. Null matrix
111	Question Image	
112	Question Image	A. I B. |A| C. |A| I D. None of these
113	The matrix A = [aij]1xn is a	A. Vector B. Rectangular matrix C. Column vector D. Square matrix
114	Question Image	A. 0 B. 1 C. -2 D. 10
115	The transpose of a zero matrix is a _____	A. Column matrix B. Zero matrix C. Row matrix D. Scalar matrix
116	Question Image	A. 0 B. 1 C. 2 D. 4

117	Question Image	A. 3 x 1 B. 1 x 3 C. 3 x 3 D. 1 x 1
118	The matrix A = [aij]mxn with m ≠n is always	A. Symmetric B. Hermition C. Skew-symmetric D. None
119	The order of the matrix [1 2 3] is	A. 1 x 1 B. 3 x 3 C. 3 x 1 D. 1 x 3
120	If A and B are two matrices such that AB = B and BA = A then A2 + B2 =	A. 2 AB B. 2 BA C. A + B D. AB
121	Question Image	
122	Question Image	A. A B. -A C. A^t D. A⁻
123	Question Image	A. a = 4, b = 1 B. a = 1, b = -4 C. a = 0, b = 4 D. a = 2, b = 4
124	Question Image	
125	Question Image	A. 1 B. 0 C. 3 D. -1
126	A and B be two square matrices and if their inverse exist the (AB)-1 =	A. A-1 B-1 B. AB-1 C. A-1B D. B-1A-1
127	Question Image	A. 0 B. Independent of a C. Independent of b D. Independent of c
128	Question Image	
129	The transpose of a row matrix is a _____	A. Zero matrix B. Diagonal matrix C. Column matrix D. Row matrix
130	Matrix multiplication is	A. Commutative B. Not commutative C. Not associative D. Not distributive
131	We solve the system of non-homogeneous linear equations by	A. a and b B. b and c C. c and a D. a,b and c
132	The square matrix A is skew-symmetric when At =	A. -B B. -C C. -A D. -D
133	Question Image	A. 2 x 2 B. 2 x 3 C. 3 x 2 D. 3 x 3
134	Question Image	A. A(α) - A(β) B. A(<span style="font-family: "Times New Roman"; font-size: 24px; color: rgb(34, 34, 34); text-align: center; background-color:

		rgb(255, 255, 224);">α) + A(β) C. A(α-β) D. A(α+β)
135	Cofactor of an element aij denoted by Aij is	A. (-2)i+j B. Mij C. (-1)i+j Mij D. None of above
136	In order of A is m x n and order of B is n x p then order of AB is	A. m x m B. n x n C. m x p D. p x m
137	Question Image	D. all
138	Question Image	A. a = 2, b = 3 B. a = 3, b = 2 C. a = 2, b = 1, 2 D. a = 3, b = 3
139	A matrix in which the number of rows is not equal to the number of columns is called a	A. Diagonal matrix B. Rectangular matrix C. Square matrix D. Scalar matrix
140	Question Image	A. 3 x 2 B. 2 x 3 C. 3 x 3 D. 2 x 2
141	Two matrices A and B are conformable for the product AB if	A. Both A and B are square B. Both A and B are symmetric C. Number of rows of A = number of columns of B D. Number of columns of A = number of rows of B
142	An equation of the form ax + by = k is homogeneous linear equation when	A. b = 0, a = 0 B. a = 0,b ≠ 0 C. b = -0,a≠ 0 D. a≠ 0,b≠ 0, k = 0
143	If A is skew Hermitian Matrix then which of the following is not skew Hermitian matrix	A. A2 B. A5 C. A3 D. A7
144	The matrix A = [aij]mxn with m≠n is	A. Rectangular B. Symmetric C. Square D. None
145	Question Image	
146	Question Image	A. An upper triangular matrix B. A lower triangular matrix C. A diagonal matrix D. A null matrix
147	Question Image	
148	Matrices A = [aij] 2 x 3 and B =[bij] 3 x 2 are suitable for	A. BA B. A² C. AB D. B²
149	The additive inverse of a matrix A is	D. None of these
150	If A and B are two matrices such that AB = B and BA =A, then A^2+ B^2=	A. 2 AB B. 2 BA C. A + B D. AB
151	If A = |aij| is (m x n) matrix then transpose of A is of the order	A. m x m B. m x n C. n x n D. n x m
152	If A is a non-singular matrix then adj A is	A. Non-singular B. Symmetric C. Singular

		C. Singular D. Non defined
153	Which of the following is skew symmetric matrix	
154	If the matrices A and B have the order 1 x 10 and 10 x 1 then order of AB is	A. 1 x 1 B. 1 x 10 C. 10 x 10 D. 10 x 1
155	Cofactor of an element $a_{ij}$is defined by	A. (-1)^{i+j}|A| B. (-1)^{i+j}M_{ij} C. (-1)^{i+j}M⁻¹ D. None of these
156	Question Image	A. Symmetric B. Skew-symmetric C. Hermitian D. Skew hermitian
157	A matrix in which the number of rows is equal to the number of columns is called a	A. Diagonal matrix B. Rectangular matrix C. Square matrix D. Scalar matrix
158	Question Image	
159	Rank of matrix [1 3 5 0] is	A. 1 B. 3 C. 2 D. 4
160	If A is singular then |A| = _____	A. 1 B. 0 C. 2 D. None of these
161	We also the system of non-homogeneous linear equations by	A. a and b B. b and c C. c and a D. a, b and c
162	For a square matrix A, if $A = A^t$, then A is called	A. matrix B. Transpose C. Symmetric D. Non-symmetric
163	A square matrix A = [aij] is upper triangular when	A. cij = 0 B. bij = 0 C. aij = 0 for all i > j D. dij = 0
164	If the trace of matrix A is 5, then the trace of the matrix 3A is	A. 3/5 B. 5/3 C. 8 D. 15
165	Question Image	A. A⁻ B. A^t C. -A D. A
166	For trival solution |A| is	A. A B. |A| = 0 C. A = 0 D. |A|≠ 0
167	Question Image	A. I3 B. rI3 C. r D. none
168	Question Image	A. Identity matrix B. Diagonal matrix C. Null matrix D. Hermitian matrix
169	Question Image	
170	Question Image	A. 5 B. 15 C. 10 D. 20