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	Question Type	Question	A	B	C	D	Ansv
	FBQ	If any matrix A is transformed into another matrix B by a series of elementary row operations, then A and B are ______ matrices.	equivalent				
	FBQ	$$1+\frac{x}{1!}+\frac{x^2}{2!}+\frac{x^3}{3!}+\ ....$$ is the ______ $$series\ for\ \exp x$$	Maclaurin's	maclaurin			
	FBQ	If the Lagrange's interpolation polynomial of f(x) is given as $$x^3-x^2+3x+8\ ,$$ then f (2) = 1 is ______	8	eight			
	FBQ	Given that f(3) = 168, f(7) = 120, f(3) =72 and f(10) = 63,the approximate value for f(6) is ______	147				
	FBQ	If AB = BA = I , then A is the ______ of B	inverse				
	FBQ	______ is the determinant of the system of equations: $$4x_1+x_2+x_3=4$$ $$x_1+4x_2-2x_3=4$$ $$-x_1+2x_2-4x_3=2$$	36				
	FBQ	Given that the Lagrange's interpolating polynomial P(x) is given by $$P(x)=L_0(x)f_0+L_1(x)f_1+L_2(x)f_2+L_3(x)f_3$$ Hence, If f(1) = -3, f(3) = 9, f(4) = 30 and f(6) = 132, therefore Lagrange fundamental polynomial $$L_0(x)$$ will be ______	7	seven			
	FBQ	A matrix having the same number of rows and columns is called ______ matrix	square	Square			
	FBQ	A matrix in which all the non-diagonal elements vanish is known as ______ matrix.	diagonal				

☐							
☐	FBQ	A system of linear equations is said to be ______ if it has at least one solution.	homogeneous				
☐	FBQ	The transpose of the cofactor matrix of a square matrix A is called the ______ of A	adjoint	Adjoint			
☐	FBQ	A matrix A = (aij) in which aij = 0 (i, j = 1, 2 ....., n) is called ______	NULL	Null			
☐	FBQ	Determinant is a number associated with ______ matrices.	square	Square			
☐	FBQ	A matrix A is ______ if and only if it has a zero eigenvalue	singular				
☐	FBQ	The process of determining the value of f(x) for a value of x lying outside the interval [a, b] is called ______	extrapolation				
☐	MCQ	Iterative methods of the solutions of systems of equations are ……………..	finite	infinite	sequential	non-sequential	B
☐	MCQ	One of these is not a method of solving system of linear equations	Inverse method	elimination method	Determinant method	Solution method	D
☐	MCQ	The following statements are true except	The backward-difference form is suitable for approximating the value of the function at x that lies towards the end of the table.	Stirling's method is used whenever interpolation is required of x near the middle of the table of values.	\[For\; the\; central\; difference\; formulas,\; the \;origin\; x_0\;,\; should\; not \;be\; chosen \;near\; the\; point\; being\; approximated.\]	The Stirling's interpolation is used for calculation when x lies between \[x_0 - \frac{1}{4}h\;and \;x_0 + \frac{1}{4}h\]	C
☐	MCQ	The following statements are true except	The divided difference is independent of the order of its arguments.	The identity matrix I is a diagonal matrix in which all the diagonal elements are equal to one	A square matrix is lower triangular if all the elements above the main diagonal vanish .	The divided difference is dependent of the order of its arguments.	D
☐	MCQ	One of the following is not true	Two matrices A and B can be multiplied only if the number of columns of A equals the number of rows of B.	Addition of matrices is defined only for matrices of same order.	Two matrices A and B can be multiplied only if the number of columns of B equals the number of rows of A.	A square matrix is lower triangular if all the elements above the main diagonal vanish.	A
☐	MCQ	The backward differences of order three \[\triangledown ^3\; of\; f(x)\] is denoted by ……….	\[\triangledown ^3 f_k = f_k - 3f_(k-2) - 3f_(k-2) - f_(k-3)\]	\[\triangledown^3 f_k = f_k - 3f_(k-2) - 3f_(k-2) - f_(k-3)\]	\[\triangledown ^3 f_k = f_k - 3f_(k-2) - 3f_(k-2) - f_k\]	\[\triangledown ^3 f_k = f_k - 3f_(k-2) - 3f_(k-2) - f_k\]	B
☐	MCQ	The inverse of the matrix \[\begin{pmatrix} 1 & 2 & 3\\0 & 4 & 5\\0 & 0 & 6\end{pmatrix}\; is\; …….. \]	\[\begin{pmatrix} 1 & \frac{-1}{3} & \frac{-1}{2}\\0 & \frac{1}{4} & \frac{-5}{24}\\0 & 0 & \frac{1}{6}\end{pmatrix}\]	\[\begin{pmatrix} 1 & \frac{-1}{2} & \frac{1}{12}\\0 & \frac{1}{-4} & \frac{5}{24}\\0 & 0 & \frac{1}{6}\end{pmatrix}\]	\[\begin{pmatrix} 1 & \frac{-1}{2} & \frac{-1}{12}\\0 & \frac{1}{4} & \frac{-5}{24}\\0 & 0 & \frac{1}{6}\end{pmatrix}\]	\[\begin{pmatrix} 1 & \frac{-1}{2} & 3\\0 & \frac{1}{4} & \frac{-5}{24}\\0 & 0 & \frac{1}{6}\end{pmatrix}\]	C
☐	MCQ	If the inverse of matrix B exists, then it is ………..	universal	unique	united	unlimited	B

☐							
☐	MCQ	Stirling's formula for interpolation is given by …………..	\[P_n (x) = f (x_0) + \frac{s - 1}{2}\left[df_1+ d_(-\frac{1}{2})\right] + \frac{s^2}{2!}d^2f_0\]	\[P_n (x) = f (x_0) + \frac{s}{2}\left[df_(1/2) + d_(-\frac{1}{2})\right] + \frac{s^2}{2}d^2f_0\]	\[P_n (x) = f (x_0) + \frac{s}{2}\left[df_(1/2) + d_(-\frac{1}{2})\right] + \frac{s^2}{2!}df_0\]	\[P_n (x) = f (x_0) + \frac{s}{2}\left[df_(\frac{1}{2}) + d_(-\frac{1}{2})\right] + \frac{s^2}{2!}d^2f_0\]	D
☐	MCQ	One of the following is true	\[\triangle ^3 f_4 = f_4 - f_3\]	\[\triangle ^3 f_4 = f^4 - f^3\]	\[\triangle ^3 f_4 = f_5 - f_4\]	\[\triangle ^3 f_4 = f_3 + f_4\]	A
☐	MCQ	The inverse of a matrix A is given by	\[A^{-1} = \frac{1}{det(A)} adj(A)\]	\[A^{-1} = \frac{1}{det(A)}\]	\[A = \frac{1}{det(A)} adj(A)\]	A = det(A) adj(A)	A
☐	MCQ	……….. Theorem states that 'If f is a continuous function defined on [a, b] and differentiable on]a, b[; and If f(a) = f(b), then there exists a number \[x_{0}\in]a, b[\;such\; that \;f '(x_{0}) = 0\]	Pythagoras	Chebyshev	Rolle's	Lagrange's Mean Value	C
☐	MCQ	The Lagrange's interpolating polynomial P(x) is given by ………….	\[P(x)=L_1(x)f_0 + L_0(x)f_1 + L_3(x)f_2 + L_2(x)f_3\]	\[P(x)=L_0(x)f_3 + L_1(x)f_2 + L_2(x)f_1 + L_3(x)f_0\]	\[P(x)=L_0(x)f_0 + L_1(x)f_1 + L_2(x)f_2 + L_3(x)f_3\]	\[P(x)=L_0(x)f_0 + L_1(x)f_2 + L_2(x)f_2 + L_3(x)f_3\]	C
☐	MCQ	Solve the system of equations: \[a + b + c = 1\] \[4a +3b - c = 6\] \[3a + 5b + 3c = 4\]	a = 1/2 ; b = -1; c = - 1/2	a = 1/2 ; b = 1; c = - 2	a = 1 ; b = 1/2 ; c = - 1/2	a = 1/2 ; b = 1; c = - 1/2	C
☐	MCQ	\[The \;interpolating \;polynomial \;of \;degree \leq n\; with\; the\; nodes \;x_{0},x_{1}, … ,x_{n}\] can be written as	\[P_{n}(x) = \sum_{k\to 0}^{n} \frac{ f (x_{k}) } { (x -x_{k}) w'(x_{k}) }\]	\[P_{n}(x) = \sum_{k\to 0}^{n} \frac{f(x_{k}) } { (x - x_{k}) w'(x_{k}) }\]	\[P_{n} (x) = w(x)\sum_{k\to 0}^{n} \frac{f(x_{k})}{(x - x_{k}) (x_{k}) }\]	none of the above	A
☐	MCQ	Find the inverse of the matrix \[\begin{pmatrix} 1 & 2 & 3\\0 & 4 & 5\\0 & 0 & 6\end{pmatrix}\]	\[\begin{pmatrix} 1 & 2 & 3\\0 & 4 & 5\\0 & 0 & 6\end{pmatrix}\]	\[\begin{pmatrix} 1 & -1/2 & \frac{-1}{12}\\0 & \frac{1}{4} & \frac{-5}{24}\\0 & 0 & \frac{1}{6}\end{pmatrix}\]	\[\begin{pmatrix} 1 & \frac{1}{2} & \frac{3}{0} & 4 & \frac{5}{24}\\0 & 0 & 6\end{pmatrix}\]	\[\begin{pmatrix} 1 & 2 & \frac{1}{12}\\0 & 4 & {5}{24}\\0 & 0 & \frac{1}{6}\end{pmatrix}\]	B
☐	MCQ	\[\Delta^2 f_k= ……….\]	\[f_{k+1}-f_k\]	\[\Delta f_{k+1}-\Delta f_k\]	\[f_{k+2}-2f_{k+1}+f_k\]	All the options	D
☐	MCQ	\[Let\;\;x_0, x_1, … x_n \]be (n + 1) distinct points on the real line and f(x) be a real-valued function defined on some interval I = [a, b] containing these points, then ……….	there exists more than one polynomial of degree n	there exists exactly one polynomial of degree n	there exists two polynomials of degrees n and n+1	no polynomial of degree n exists	B
☐	MCQ	A system of linear equations is said to be …….. if not all its right hand side is zero	consistent	inconsistent	homogeneous	non-homogeneous	D
☐	MCQ	The eigenvalues of a diagonal matrix are ……….	0 & 1	the diagonal elements themselves	all zeroes	all unity	B

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