Unofficial CUET Mathematics Answer Key 2024

Questions	Answers
If A and B are symmetric matrices of the same order, then AB - BA is a :	(3) skew symmetric matrix
|A| is a square matrix of order 4 and IA| = 4, then |2A| will be:	(2) 64
If $[A]_{3\times2}$ $[B]_{x\times y}$ = $[C]_{3\times1}$, then:	(2) x = 2, y = 1
If a function f(x) = x^2 + bx + 1 is increasing in the interval [1,2], then the least value of b is:	(3) -2
Two dice are thrown simultaneously. If X denotes the number of fours, then the expectation of X will be:	(2) 1/3
For the function f(x) = 2x3 - 9x2 + 12x - 5, x ∈ [0,3], match List-I with List-II: **List-I** (A) Absolute maximum value (B) Absolute minimum value (C) Point of maxima (D) Point of minima **List-II** (I) 3 (II) 0 (III) -5 (IV) 4 Choose the correct answer from the options given below:	(4) (A) - (IV), (B) - (III), (C) - (I), (D) - (II)
An objective function Z = ax + by is maximum at points (8, 2) and (4, 6). If a ≥ 0 and b ≥ 0 and ab = 25, then the maximum value of the function is equal to:	(3) 50

The area of the region bounded by the lines $x + 2y = 12$, $x = 2$, $x = 6$ and x-axis is:	(4) 16 sq. units
A die is rolled thrice. What is the probability of getting a number greater than 4 in the first and the second theve of dice and a number less than 4 in the third throw?	(4) 1/18
The comer points of the feasible region determined by $x + y \le 8$, $2x+y \ge 8$, $x \ge 0$, $y\ge 0$ are A(0, 8), (4, 0) and C(8, 0). If the objective function $Z = ax + by$ base its maximum value on the line sept AB, then the relation between a and b is:	(2) $a = 2b$
If $t = e^{2x}$ and $y = \log_e t^2$, then d^2y/dx^2 is :	(1) 0
$\int (\pi/(x^{n+1}) - x)\, dx = ?$	(1) $(\pi/n) \log_e \| (x^n - 1)/x^n \| + C$
$\int_0^1 (a - bx^2)\, dx / (a + bx^2)^2 = ?$	(4) $1/(a + b)$
The second order derivative of which of the following functions is 5^x?	(4) $5^x /(\log_e 5)^2$
The degree of the differential equation $(1 - (dy/dx)^2)^{3/2} = k\, d^2y/dx^2$	(2) 2
Let R be the relation over the set A of all straight lines in a plane such that $l_1 \, R \, l_2 \leftrightarrow l_1$ is parallel to l_2. Then R is	(2) An equivalence relation
The probability of not getting 53 Tuesdays in a leap year is:	(1) 2/7
The angle between two lines whose direction ratios are proportional <1, 1, -2> and <(√3 - 1), (-√3 - 1), -4> is:	(1) $\pi/3$
If $(a - b) \cdot (a + b) = 27$ and $\|a\| = 2\|b\|$, then $\|b\|$ is:	(1) 3

If $\tan^{-1}(2/(3^{-x} + 1)) = \cot^{-1}(3/(3^{x} + 1))$ then which one of the following is true?	(2) There is one positive and one negative real value of x satisfying the above equation.
If A, B and C are three singular matrices given by A = [(1 4), (3 2a)], B = [(3b 5), (a 2)] and C = [(a + b + c c + 1), (a + c c)], then the value of abc is:	(3) 45
The value of integral $_{\log e^{\wedge}2}\int^{\log e^{\wedge}3}$ [(e2x - 1) / (e2x + 1)] dx is:	(2) $\log_{e^{\wedge}4} - \log_{e^{\wedge}3}$
If a, b and c are three vectors such that a + b + c = 0, where a and b are unit vectors and | c | = 2, then the angle between the vectors b and c is:	(4) 180°
Let [x] denote the greatest integer function. Then match List-I with List-II: **List-I** (A) | x - 1 | + | x - 2 | (B) x - | x | (C) x - { x } (D) x | x | **List-II** (I) is differentiable everywhere except at x = 0 (II) is continuous everywhere (III) is not differentiable at x 1 (IV) is differentiable at x = 1 Choose the correct answer from the options given below:	(4) (A) - (II), (B) - (I), (C) - (III), (D) - (IV)
The rate of change (in cm^2/s) of the total surface area of a hemisphere with respect to radius r at $r = (1.331)^{1/3}$ cm is	(2) 6.6π
The area of the region bounded by the lines x/7√3a + y/b = 4, x = 0 and y = 0 is:	(1) 56√3ab
If A is a square matrix and I is an identity matrix such that $A^2 = A$. then $A(I - 2A)^3 + 2A^3$ is equal to	(4) A

Match List-I with List-II: **List-I** (A) Integrating factor of $xdy - (y + 2x^2) dx = 0$ (B) Integrating factor of $(2x^2 - 3y) dx = xdy$ (C) Integrating factor of $(2y + 3x^2) dx + xdy = 0$ (D) Integrating factor of $2xdy + (3x + 2y) dx=0$ **List-II** (I) $1/x$ (II) x (III) x^2 (IV) x^3 Choose the correct answer from the options given below:	(2) (A) - (I), (B) - (IV), (C) - (III), (D) - (II)
If the function f: N→ N is defined as f(n) = { (n - 1 if is in even), (n + 1 if n is odd), then (A) f is injective (B) f is into, C) f is surjective (D) f is invertible Choose the correct answer from the options given below:	(4) (A), (C), and (D) only
$_0\int^{\pi/2}$ [(1 - cotx) / (cosecx + cosx)] dx = ?	(1) 0