MOST IMPORTANT QUESTIONS

- Solve the L.P.P given below graphically: max z=$3x + 2y$ subject to the constrains $x + 2y \leq 10$, $3x + y \leq 15$, $x \geq 0, y \geq 0$

- Solve the L.P.P given below graphically: minimise z=$200x + 500y$ subject to the constrains $x + 2y \geq 10$, $3x + y \leq 24$, $x \geq 0, y \geq 0$

- Using matrix method, solve the system of linear equations:$x + y + 2z = 4, 2x - y + 3z = 9$, $3x - y - z = 2$

- Find $\frac{dy}{dx}, if\ y = x^{sinx}$

- $\int \frac{x-1}{(x+1)(x-2)} dx$

- $\int_0^{\frac{\pi}{2}} \frac{cos^5 x}{sin^5 x + cos^6 x}$

- Find the value of k so that f(x)=$\begin{cases} kx + 1, if x \leq 5 \\ 3x - 5, if\ x > 5 \end{cases}$ cont. at x=5

- Find the area of triangle with vertices (2,7),(1,1) (10,8)

- If A=$\begin{bmatrix} 1 & 3 & 3 \\ 1 & 4 & 3 \\ 1 & 3 & 4 \end{bmatrix}$ then verify that $A(adj\ A) = |A|I$ also find A^{-1}

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MOST IMPORTANT QUESTIONS

- Show that the function f given by $f(x) = x^3 - 3x^2 + 4x$ $x \in R$ is increasing on R
- Find the rate of change of area of circle with respect to its radius r,when r=3 cm
- Find $\frac{dy}{dx}$ if $x = 2at^2, y = at^4$
- The volume of a cube is increasing at a rate of 9 cm^3/s .how fast is the surface area increasing when the length of edge is 10cm
- If y=$3cos(logx) + 4sin(logx)$ $show\ that\ x^2y_2 + xy_1 + y = 0$
- Find the maximum minimum values if any of the function $f(x)$= $9x^2 + 12x + 2$
- $\int \frac{(1+logx)^2}{x} dx$
- $\int \frac{x^2}{1-x^6} dx$
- $\int \frac{1}{9x^2+6x+5} dx$
- $find$ the area of the region bounded by the curve $y^2 = x$ $and\ lines$ x=1 x=4 and x axis in the $first\ quadrant$
- Find the area ellipse $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$ using integration

MOST IMPORTANT QUESTIONS

- stone is dropped into a quiet lake and waves move in circles at the speed of 4 cm/sec.At that instant, when radius of circular wave is 10 cm, how fast is the enclosed area increasing?

- Consider the the relation R in the set $\{1, 2, 3\}$ given by

$$R = \{(1,1), (2,2)(3,3)(1,2)(2,3\}$$

  a) IS R reflexive .why ?

  b) Show that R is neither symmetric nor transitive

  c) Which ordered pair may added to R so that it become transitive

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- Show that the relation R in the set A=$\{1, 2, 3, 4, 5\}$ Given by R=$\{(a, b)|a - b|iseven\}$ is equivalence relation

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- Express A = $\begin{bmatrix} 3 & 3 & -1 \\ -2 & -2 & 1 \\ -4 & -5 & 2 \end{bmatrix}$ A the sum of symmetric and skew symmetric

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- Find the order and degree of the differential equation

$$\left(\frac{d^2y}{dx^2}\right)^2 + x\left(\frac{dy}{dx}\right)^3 + y = 0$$

- Find the general solution differential equation

$$\frac{dy}{dx} = \frac{1 + y^2}{1 + x^2}$$

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MOST IMPORTANT QUESTIONS

- Consider the vectors $a = i + 2j - 5k \; and \; b = 2i + j + k$
  a) Find $\vec{a}+\vec{b}$
  b) Find $|\vec{a} + \vec{b}|$
  c) Find the unit vector in the direction of $\vec{a}+\vec{b}$
  d) Find the vector of magnitude 5 in the direction of $\vec{a}+\vec{b}$

- Let a=$i - 2j + 3k, and \; b = 3i - 2j + k$
  a) Find $\vec{a}.\vec{b}$
  b) Find the projection of the vector $\vec{a} \; on \; \vec{b}$
  c) Find the angle between the vector $\vec{a} \; and \; \vec{b}$

- Find the area of triangle with vertices A(1,1,2) B (2,3,5) and C(1,5,5)

- Find s.d between the lines

$$\vec{r} = i + 2j + 3k + \gamma(i - 3j + 2k)$$

$$\vec{r} = 4i + 5j + 6k + \mu(2i + 3j + k)$$

- Find the general solution of differential equation

$$sec^2 x tany dx + sec^2 y tanx dy = 0$$

- Evaluate $\int_0^{\frac{\pi}{2}} \frac{\sqrt{sinx}}{\sqrt{sinx}+\sqrt{cosx}} dx$

MOST IMPORTANT QUESTIONS

- $f$ind the area of the region bounded by the curve

  $y^2 = x and\ lnes$

  $x = 1 = 4\ and\ the\ x\ axis\ in\ the\ first\ quadrant$

- $\int \frac{1-cosx}{sin^2x}\,dx$

- Bag -I contains 3 red and 4 black balls while another Bag -II contains 5 red and 6 black balls . One ball is drawn at random from one of the bags and it is found to be red . Find the probability that it was drawn from Bag - II.

- If $p(A) = \frac{6}{11}, p(B) = \frac{5}{11}\ and\ P(A \cup B) = \frac{7}{11}$

  FIND $P(A \cap B)$

- Find the value of x if $\begin{vmatrix} 2 & 4 \\ 5 & 1 \end{vmatrix} = \begin{vmatrix} 2x & 4 \\ 6 & x \end{vmatrix}$

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MOST IMPORTANT QUESTIONS