

By. Er. Dharmendra Sir

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DPM CLASSES

6th to 10th (Math's & Science), 11th & 12th (Physics, Chemistry, Math's)

TEST - PAPER (CBSE/NCERT)

APPLICATION OF INTEGRALS

SESSION -2024-25

CLASS - 12th

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Time : 1 hr ∴ Application of Integrals :- mm:

Q. 1. Draw the sketch of the curve $y = \sqrt{x-1}$ in the interval $[1, 5]$. Find the area under the curve and between the lines $x=1$ and $x=5$.

Q. 2. Determine the area under the curve $y = \sqrt{a^2 - x^2}$ included between the lines $x=0$ and $x=a$.



Q. 3. Find the area of the region bounded by $y = \sqrt{x}$ and $y = x$.

Q. 4. Find the area enclosed by the curve $y = -x^2$ and the straight line $x+y+2=0$



Q. 5. Find the area bounded by the curve $y = \sqrt{x}$, $x = 2y + 3$ in the first quadrant and x -axis.

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Q. 6. Draw a rough sketch of the region :

$\{(x, y) : y^2 \leq 6ax \text{ and } x^2 + y^2 \leq 16a^2\}$. Also
Find the area of the region sketched using
method of integration.

Q. 7. Compute the area bounded by the lines

$$x + 2y = 2, \quad y - x = 1 \text{ and } 2x + y = 7.$$

Q. 8. Find the area bounded by the lines $y = 4x + 5$,
 $y = 5 - x$ and $4y = x + 5$.Q. 9. Find the area bounded by the curve $y = 2 \cos x$
and x -axis from $x = 0$ to $x = 2\pi$

Q. 10. Draw a rough sketch of the given curve

$y = 1 + |x+1|$, $x = -3$, $x = 3$, $y = 0$, and find the
area of the region bounded by them, using
integration.

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