

Ans 2 (11) Properties of Double Integration.

- Function of two variables: $f(x, y), f(u, v), g(x, y)$
- Independent variables: x, y, u, v
- Small changes: $\Delta x_i, \Delta y_i$
- Regions of Integration: R, S
- Real numbers: $a, b, c, d, \alpha, \beta$
- Polar coordinates: r, θ
- Area of A region: A
- Surface area: S
- Volume of a Solid: V
- Mass of a lamina: m
- Density of a lamina: $\rho(x, y)$
- First moment: M_x, M_y
- Moment of inertia: I_x, I_y, I_o
- Charge of Plate: Q
- Charge density: $\sigma(x, y)$
- Coordinates of the Center of mass: \bar{x}, \bar{y}
- Average of a function: μ