

# BHASKAR CLASSES PVT LTD

## Integration- SET 3

1. Integrate the function:  $\frac{x^2}{x^6+a^6}$
2. Integrate the function:  $\frac{5x+3}{\sqrt{x^2+4x+10}}$
3. Integrate the rational function:  $\frac{2x-3}{(x^2-1)(2x+3)}$
4. Integrate the rational function:  $\frac{1}{x(x^n+1)}$
5. Integrate the rational function:  $\frac{(x^2+1)(x^2+2)}{(x^2+3)(x^2+4)}$
6. Integrate the functions:
  - a.  $x^2 e^x$
  - b.  $x \sin^{-1} x$
  - c.  $x \tan^{-1} x$
  - d.  $(\sin^{-1} x)^2$
  - e.  $e^x(\sin x + \cos x)$
  - f.  $\frac{(x-3)e^x}{(x-1)^3}$
  - g.  $\sin^{-1} \left( \frac{2x}{1+x^2} \right)$
7. Integrate the functions:
  - a.  $\sqrt{4-x^2}$
  - b.  $\sqrt{x^2+4x+6}$
  - c.  $\sqrt{1+\frac{x^2}{9}}$