

Q. 1

$$\lim_{x \rightarrow 2} \frac{x^3 - 7x^2 + 10x}{x^2 + x - 6}$$

Ans:

$$\text{as } x \rightarrow 2, \quad \frac{x^3 - 7x^2 + 10x}{x^2 + x - 6} \rightarrow \frac{0}{0}$$

Using L' Hospital Rule.

$$\lim_{x \rightarrow 2} \frac{x^3 - 7x^2 + 10x}{x^2 + x - 6} = \lim_{x \rightarrow 2} \frac{3x^2 - 14x + 10}{2x + 1} = \frac{-6}{5}$$