Practice Questions of Lecture 26 to 28_Solution

Q.1: Determine the interval where $f(x) = \frac{5}{2}x^4 + \frac{20}{3}x^3 - 40x^2$ is increasing on [-6, 4].

Q.2: Apply the second derivative test to determine the local maximum and local minimum values of the function $f(x) = 2x^3 - 12x^2 + 18x$.

Q.3: Calculate the maximum and minimum values of $f(x) = -20x + 5x^2$. Investigate whether there exist any relative minima or maxima outside the given interval **[**-1, 4].

Q.4: Determine the interval on which $f(x) = 2x^3 + 3x^2 - 36x$ is increasing or decreasing.