Summary

Following concepts are learnt from this lecture.

I. A function f(x) is said to have a maximum value at x=a if f(a) is greater than any other value of f(x) in the neighborhood of x=a.

II. Similarly a function f(x) is said to have minimum at x=a if f(a) is less than any value of f(x) is neighborhood of x=a .

III. The maximum and minimum values of a function taken together are called its extreme values.

IV. The points where a function has a maximum or a minimum value are called turning points.

V. At these points together to the curve are always parallel to x-axis.

VI. First derivative test says that a function yf(x) is maximum at x=a, if $\frac{dy}{dx}$ changes its sign from +ve to –ve similarly for maximum $\frac{dy}{dx}$ changes from –ve to +ve.