

22 Lecture - MTH101

Important Mcqs

What is a relative extremum?

- A. A point where the function is undefined.
- B. A point where the function has a vertical tangent.
- C. A local maximum or minimum value of a function within a given interval.
- D. A point where the function has a horizontal tangent.

Answer: C. A local maximum or minimum value of a function within a given interval.

How do you find relative extrema?

- A. Take the limit of the function as x approaches infinity.
- B. Take the limit of the function as x approaches negative infinity.
- C. Take the derivative of the function and find the critical points.
- D. Take the integral of the function.

Answer: C. Take the derivative of the function and find the critical points.

What is a critical point in calculus?

- A. A point where the function is undefined.
- B. A point where the function has a vertical tangent.
- C. A point where the derivative of the function is zero or undefined.
- D. A point where the function has a horizontal tangent.

Answer: C. A point where the derivative of the function is zero or undefined.

What is the second derivative test?

- A. A method used to determine whether a critical point corresponds to a relative maximum, relative minimum, or neither.
- B. A method used to find the derivative of the function.

- C. A method used to find the antiderivative of the function.
- D. A method used to find the limit of the function as x approaches infinity.

Answer: A. A method used to determine whether a critical point corresponds to a relative maximum, relative minimum, or neither.

What is a relative maximum?

- A. The highest point of a function within a given interval.
- B. The lowest point of a function within a given interval.
- C. A point where the function is undefined.
- D. A point where the function has a vertical tangent.

Answer: A. The highest point of a function within a given interval.

What is a relative minimum?

- A. The highest point of a function within a given interval.
- B. The lowest point of a function within a given interval.
- C. A point where the function is undefined.
- D. A point where the function has a vertical tangent.

Answer: B. The lowest point of a function within a given interval.

Can a function have multiple relative extrema?

- A. Yes, a function can have multiple relative extrema.
- B. No, a function can only have one relative extremum.
- C. It depends on the type of function.
- D. It depends on the interval.

Answer: A. Yes, a function can have multiple relative extrema.

What is the second derivative of a function?

- A. The derivative of its antiderivative.
- B. The integral of its derivative.

C. The derivative of its first derivative.

D. The integral of its second derivative.

Answer: C. The derivative of its first derivative.

What is a point of inflection?

A. A point where the function is undefined.

B. A point where the function has a vertical tangent.

C. A point where the function changes concavity.

D. A point where the function has a horizontal tangent.

Answer: C. A point where the function changes concavity.

What is the critical number of a function?

A. The highest point of the function.

B. The lowest point of the function.

C. The point where the function is undefined.

D. The value of x that makes the derivative zero or undefined.

Answer: D. The value of x that makes the derivative zero or undefined.