

21 Lecture - MTH101

Important Mcqs

What does the first derivative of a function represent?

- a) The slope of the tangent line
- b) The curvature of the function
- c) The area under the curve
- d) None of the above

Answer: a) The slope of the tangent line

What is the fundamental theorem of calculus?

- a) Differentiation and integration are inverse operations.
- b) The derivative of an integral function is equal to the original function.
- c) The area under a curve can be found by integrating the function.
- d) All of the above

Answer: d) All of the above

How is differentiation used in optimization problems?

- a) To find the maximum or minimum value of a function
- b) To find the area under a curve
- c) To find the derivative of a function
- d) None of the above

Answer: a) To find the maximum or minimum value of a function

What is the second derivative of a function?

- a) The slope of the tangent line
- b) The curvature of the function

- c) The area under the curve
- d) None of the above

Answer: b) The curvature of the function

What is the method of Lagrange multipliers used for?

- a) To solve optimization problems with constraints
- b) To find the derivative of a function
- c) To find the area under a curve
- d) None of the above

Answer: a) To solve optimization problems with constraints

How is differentiation used in physics?

- a) To find the area under a curve
- b) To find the maximum or minimum value of a function
- c) To study motion and velocity
- d) None of the above

Answer: c) To study motion and velocity

What is the complex derivative?

- a) The derivative of a complex function
- b) The derivative of a real function
- c) The area under a complex curve
- d) None of the above

Answer: a) The derivative of a complex function

What is the indefinite integral?

- a) The derivative of an integral function
- b) The integral of a derivative function
- c) The area under a curve

d) None of the above

Answer: b) The integral of a derivative function

How is differentiation used in economics?

a) To study supply and demand curves

b) To maximize profits

c) To study the rate of change of a variable

d) All of the above

Answer: d) All of the above

What is the derivative of a constant?

a) Zero

b) One

c) The constant itself

d) None of the above

Answer: a) Zero