## 12 Lecture - MTH101

## Important Subjective

1. What is continuity?

Answer: Continuity is the property of a function such that as the input variable approaches a particular value, the output value of the function approaches a specific limit.
2. What is the importance of continuity in calculus?

Answer: Continuity is essential in calculus as it allows us to define the derivative and integral of a function.
3. How is continuity related to limits?

Answer: The concept of continuity is closely related to the concept of limits, as it allows us to calculate limits precisely and make predictions about the behavior of a function as it approaches a particular point.
4. How is continuity important in analytical geometry?

Answer: Continuity is important in analytical geometry as it allows us to describe the behavior of curves in space.
5. What is the derivative of a function?

Answer: The derivative of a function is defined as the limit of the difference quotient as the interval between two points approaches zero.
6. How is the concept of continuity related to the derivative of a function?

Answer: If a function is continuous at a point, then the derivative at that point exists and is defined as the slope of the tangent line to the curve at that point.
7. What is the integral of a function?

Answer: The integral of a function is defined as the area under the curve between two points.
8. How is the concept of continuity related to the integral of a function?

Answer: The concept of continuity allows us to make precise approximations of the area under the curve by reducing the width of the rectangles to zero.
9. What is the limit of a function?

Answer: The limit of a function is defined as the value that the function approaches as the input variable approaches a particular value.
10. How is continuity related to making predictions about the behavior of a function? Answer: The concept of continuity allows us to make predictions about the behavior of a function as it approaches a particular point by calculating limits precisely.

