

10 # 7510

Section # C

Submitted to # Shomaila Mazhar

## QUESTION # (1)

Application of Derivatives and  
Integration in Engineering:

Ans) Application of Derivatives:-

Following are application of derivatives:

- Tangent and Normal lines.
- Rolle's Theorem.
- Lagrange's Mean Value Theorem.
- Newton's Method.
- Related Rules.
- Linear Approximation.
- Critical Point.
- Increase and decrease function.
- Convex function.
- Inflection point.
- Curvature and Radius of Curvature.

- 2
- optimization problem involving numbers

## Application of Integration:

- Area between curves
- Distance, velocity, Acceleration
- Volume
- Average value of function
- Work
- Center of Mass
- Kinetic energy, improper integrals
- Probability
- Surface Area.