

Assignment

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Section: B

Dept: BE(CE)

Batch: 2016

Subject: Differential
Equation

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Q.1) Application of Derivatives and Integration in Engineering

Ans Application of derivatives

Following are the application of derivatives:

- 1) Tangent and Normal lines
- 2) Rolle's Theorem
- 3) Lagrange's Mean Value theorem
- 4) Cauchy's Mean Value theorem
- 5) Newton's Method

- 6) Related Rates
- 7) Linear Approximation
- 8) critical point
- 9) Increase and decrease function
- 10) Convex function
- 11) Inflection point
- 12) Curvature and radius of curvature
- 13) Optimization problem involving numbers
- 14) Van der Waals equation
- 15) Curve sketching

Application of Integration

Following are the following of integration

- 1) Area between curves
- 2) Distance, velocity, acceleration
- 3) Volume
- 4) Average value of a function
- 5) Work
- 6) Center of mass
- 7) Kinematic energy, improper integrals

8) Propagability

9) Arc Length

10) Surface Area