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SEMESTER 2ND

SECTTION A

SUBJECT APPLIED CALCULUS

ASSIGNMENT 1ST

SUBMITTED TO MAM SHOMAILA MAZHAR

( APPLICATION OF DERIVATIVES AND INTEGRATION IN ENGINEERING)

The design and maintenance of public works such as roads, bridges, water, energy system ports, railways, and airports.

Application of derivatives:

The derivative is defined as something which is based on some other thing. In mathematics, derivatives is an expression that gives the rate of change of a function with respect to an independent variable. Derivatives have various application in mathematics, science and engineering. Derivatives are very useful because they represent slope, they can used to find maxima and minima of function.

1. Intervals of increase and decrease
2. Optimization problems application to economic.
3. Critical points.
4. Economic marginal cost and revenue.
5. Relative maxima and minima.
6. Economic cost and revenue.
7. The first derivative test for relative maximum and minimum.
8. Optimization using the first derivative test.
9. Concavity and inflection points.
10. Optimization using the second derivative test.
11. The second derivative test for relative maximum and minimum.
12. Curve skething with derivatives.
13. Optimization using the closed interval method.

Application of integration:

Application integration is the process of enabling independently designed application to work together. Commonly required capabilities include:

1. Surface area.
2. Probability.
3. Area between curves.
4. Work.
5. Center of mass.
6. Average value of a function.
7. Arc length.
8. Kinetic energy improper integrals.
9. Volume.
10. Distance velocity, acceleration.

The end