

## **CY-509 MATHEMATICAL METHODS**

**Solutions of Differential Equations:** Classification of ordinary and partial differential equations, analytical solutions, integrating factor, method of characteristics, separation of variables, fourier transformation.

**Numerical Methods:** Numerical Solutions of ordinary and partial differential equations, initial and boundary valued problems, finite element and finite difference methods, numerical integration.

**Linear Algebra:** Matrix algebra, linear and non- linear algebraic equations, eigen values and eigenvectors.

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