

## **Programme Outcomes(Mathematics)**

1. An ability to apply basic knowledge of science and mathematics to solve any type of real mathematical problem. Identify, Formulate and Analyze complex Mathematical Problem in the field of Applied Mathematics.
2. Demonstrate mathematical thinking skills, progressing from a procedural and computational understanding of mathematics to logical reasoning, pattern recognition, generalization, and abstraction, and to a formal proof.
3. Communicate mathematical ideas orally and in writing, with precision, clarity and organization, using proper terminology and notation.
4. Acquire proficiency in the use of technology to assist in learning and investigating mathematical ideas and in problem-solving.
5. Continue to acquire mathematical and statistical knowledge and skills appropriate to professional activities and demonstrate highest standards of ethical issues in mathematics.
6. Propose new mathematical and statistical questions and suggest possible software Packages like FORTRAN, C, C ++ Language and/or computer programming to find solutions to these questions.
7. Developed the skill for higher study, research activities and Project work, etc.
8. An ability to recognize and adapt to emerging field of application in Mathematics & Science by developing self- confidence for continuing education and lifelong learning process.

### Programme Specific Outcomes( Mathematics)

#### **Paper code: CC1T, GE1T: (CBCS)**

1. The primary objects of study of differential calculus are the derivative of a function and their application.
2. In a geometrical, the derivative at a point is the slope of the tangent line to the graph of the function at that point.
3. Differentiation has application nearly of the displacement of a moving body that helps the student to calculate the velocity, acceleration, displacement etc.
4. Students will able to find the extreme value of a function.
5. Integral calculus benefits by the students to study the length of a curve, area of a curve and volume of surface revolution of a curve.
6. Geometry is a branch of mathematics that studies the size, shape, figures of different curves
7. The study of geometry helps the student to improve graphical values  
(i) the plane geometry studies the shapes, like circle, triangle, ellipse etc.  
(ii) the solid geometry studies 3 dimensional objects like cube, prisms, cylinders, sphere applied in various problem
8. Differential equation benefits by the students to study of various mathematical calculation, to learn a variety of disciplines like biology, economics, and population growth etc.
9. Various types of solution procedure of the differential equation will be improve their knowledge and apply it in appropriate equation.

#### **Paper code: CC2T, GE2T: (CBCS)**

1. Complex number is used in real application such as quadratic equation, particularly useful in advanced calculus.
2. Students will able to learn different types of waves ( Sine, Cosine etc.) by using complex field.
3. The study of theory of equation by the students to learn and improve their knowledge for different type of calculation.
4. Inequality is used to find the relation between A.M. , G. M., H.M. and to calculate the better value from many values.
5. To some idea and extra knowledge acquire in abstract algebra such as relation, mapping, function etc.
6. Matrix is closely related with science, we can solve many practical problems in computer science.
6. Linear algebra specially system of linear equation, finite dimensional vector space, etc. are used to stimulate interests in learning.

#### **Paper code: CC3T, DSC1CT: (CBCS)**

1. Students will able to form extended real line, to know the various concepts and properties of real numbers.
2. To realize some idea of countable and uncountable set and their properties.
3. Students will able to know the Sequence is a mapping of natural to real number and also learn convergence criteria.
4. Series solution is the most applicable solution to solve maximum mathematical problem.
5. To learn some properties and convergency of the various series.

**Paper code: CC4T, GE3T: (CBCS)**

1. Differential equation benefits by the students to study of various mathematical calculation, to learn a variety of disciplines like biology, economics, and population growth etc.
2. Various types of solution procedure of the differential equation will be improve their knowledge and apply it to get appropriate equation.
3. Students will able to learn to know the direction in which the force is attempting to move the body.
4. To calculate the motion of a body which is confined to a plane.
5. Most of the problems are used in physics, especially in the description of electromagnetic fields, gravitational fields and also used in different branch of engineering, economics and Science.

**Paper code: DSC1AT: (CBCS)**

1. The primary objects of differential calculus are the derivative of a function and their application. Students learn it and improved their knowledge.
2. In a geometrical, the derivative at a point is the slope of the tangent line to the graph of the function at that point.
3. Differentiation has application nearly of the displacement of a moving body that helps the student to calculate the velocity, acceleration, displacement etc.
4. Students will able to find the extreme value of a function.

**Paper code: DSC1BT: (CBCS)**

1. Differential equation benefits by the students to study of various mathematical calculation, to learn a variety of disciplines from biology, economics, and population growth etc.
2. Various types of solution procedure of the differential equation will be improve their knowledge and apply it in appropriate equation.

**Paper code: DSE-1T: (CBCS)**

1. Students will able to learn to know the direction in which the force is attempting to move the body.
2. To calculate the motion of a body which is confined to a plane.
3. Most of the problems are used in physics, specially in the description of electromagnetic fields, gravitational fields and also used in different branch of engineering, economics and Science.
4. To some idea and extra knowledge acquire in abstract algebra such as relation, mapping, function etc.
5. Matrix is closely related with science, we can solve many practical problems in computer science.

**Part-II(Hons.):****Paper –III( old system):**

1. Student will able to learn and improve their knowledge for solving different types of Linear Programming Problems and their real applications (i.e. Transportation problem, Assignment problem, travelling salesman problem etc.) .
2. To learn mathematical formulation of Game theory and their solution procedure.
3. Mathematical form of Linear Programming Problems are used in different branch of engineering and Sciences.
4. Geometry is a branch of mathematics that studies the size, shape, figures of different curves
5. The study of geometry helps the student to improve graphical values
6. The solid geometry studies 3 dimensional objects like cube, prisms, cylinders, and sphere applied in various problems.

**Paper –IV( old system):**

1. Dynamics is used to get the quantity of scalars and vectors.
2. Students will able to learn and determine the velocity, acceleration, movement of the planets
3. To discuss and some concepts of the mass, centre of gravity, centre of mass, etc.
4. Dynamics is used mainly in physics, in mechanics and others part.
5. STATICS mainly used to describe and calculated the force, friction, etc.
6. Students will able to know the particle in equilibrium stable or unstable
7. Maximum problem used in the branch of engineering and physics.
8. Differential equation benefits by the students to study of various mathematical calculation, to learn a variety of disciplines like biology, economics, and population growth etc.
9. Various types of solution procedure of the differential equation will be improve their knowledge and apply it in appropriate equation.

**Paper –V( old system):**

1. Mathematics students are benefited to learn tensor calculus generalized form of a vector calculus & to concept nth dimensional space. Also tensors have many applications in geometry.
2. In mathematics student know that metric spaces are generalization Euclidean space & the most familiar metric space is 3 dimensional Euclidean spaces.
3. To study the metric space students gets the knowledge Euclidean metric defines the distance between two points as the length of line segment connecting them.
4. Power series is useful for solving the differential equation & computing limits & integrals.
5. Using power series to approximate the particular value of any function.
6. Students will able to learn and improve their knowledge for solving different forms of complex differentiation.

**Part-III(Hons.):****Paper –VI( old system):**

1. RIGID Dynamics is used in compound pendulum, motion about a fixed axis etc.
2. Students will be able to acquire knowledge in physics like D'Alembert principle.
3. This study is used to calculate velocity, acceleration of a planet.
4. HYDROSTATICS is used to get the knowledge of fluid surface and its density.
5. Students acquiring knowledge of a body force, homogeneous & non homogeneous fluid.
6. This study define to get knowledge about viscous fluid, surface tension etc. and it gain the knowledge of the pressure of a fluid, elasticity of fluid & temperature
7. MODELLING is use in growth of species, rate of change of population etc.
8. Students will able to learn the existence of species in our real world.

**Paper –VII( old system):**

1. The most important aspect of computer science is problem solving, an essential skill for life.
2. To learn how to use computer knowledge basically implement programming language (Cc, C++,etc.) in various Numerical Problems.
3. Students study the design, development and analysis of software used to solve problems in a various of business, scientific and social contexts.
4. computer science allow students to perform good research in different field of subject.
5. PROBABILITY means the mathematical chance that something might happen , is used in numerous day to day (i) weather forecasts(ii) sports strategies(iii) making business
6. This study is very helpful of mathematics students in real life problem.
7. Statistics is about gaining information sets of data (i) it is used in medical drug system (ii) in the financial world in working with lic and other risks assessment
8. Charts, graphical method are used by the student to calculate statistical data
9. Statistical data is used in many branch of engineering and Science.

**Paper –VIII( old system):**

1. To learn the various types of error and to minimize the error for solving different types of mathematical problem.
2. Students will able to learn different methods for solving ordinary differential equation, integration, differentiation without using calculus method.
3. To learn and improve their knowledge for finding functional values using only using some tabulated data and without polynomial function .
4. Students study the design, development and analysis of software used to solve problems in a various of business,scientific and social contexts.
5. Computer science allows students to perform good research in different field of subject.
6. To learn how to use computer knowledge basically implement programming language (Cc, C++,etc.) in various Numerical Problems.

**Part-II(General):****Paper –II( old system):**

1. The primary objects of differential calculus are the derivative of a function and their application. Students learn it and improved their knowledge.
2. In a geometrical, the derivative at a point is the slope of the tangent line to the graph of the function at that point.
3. Differentiation has application nearly of the displacement of a moving body that helps the student to calculate the velocity, acceleration, displacement etc.
4. Students will able to find the extreme value of a function.
5. Integral calculus benefits by the students to study the length of a curve, area of a curve and volume of surface revolution of a curve.
6. Differential equation benefits by the students to study of various mathematical calculation, to learn a verity of disciplines like biology, economics, and population growth etc.
7. Various types of solution procedure of the differential equation will be improve their knowledge and apply it in appropriate equation.

**Paper –III( old system):**

1. To learn the various types of error and to minimize the error for solving different types of mathematical problem.
2. Students will able to learn different methods for solving ordinary differential equation , integration, differentiation without using calculus method.
3. To learn and improve their knowledge for finding functional values using only using some tabulated data and without polynomial function .
4. Student will able to learn and improve their knowledge for solving different types of Linear Programming Problems and their real applications ( i.e. Trasportation problem, Assignment problem , travelling salesman problem etc.).
5. To learn mathematical formulation of Game theory and their solution procedure.
6. Mathematical form of Linear Programming Problems are used in different branch of engineering and Sciences.
7. Dynamics is used to get the quantity of scalars and vectors.
8. Students will able to learn and determine the velocity, acceleration, movement of the planets
9. Dynamics is used mainly in physics, in mechanics and others part.

**Part-III(General):****Paper –IV( old system):**

1. To learn how to use computer knowledge basically implement programming language (Cc, C++,etc.) in various Numerical Problems.
2. The most important aspect of computer science is problem solving ,an essential skill for life.
3. Students study the design, development and analysis of software used to solve problems in a various of business,scientific and social contexts.
4. computer science allow students to perform good research in different field of subject.
5. PROBABILITY means the mathematical chance that something might happen , is used in numerous day to day (i) weather forecasts(ii) sports strategies(iii) making business
6. This study is very helpful of mathematics students in real life problem.
7. Statistics is about gaining information sets of data (i) it is used in medical drug system (ii) in the financial world in working with lic and other risks assessment
8. Charts, graphical method are used by the student to calculate statistical data
9. Statistical data is used in many branch of engineering and Science.