COURSE EXIT SURVEY: Analysis Report
Academic Session: 2021-22

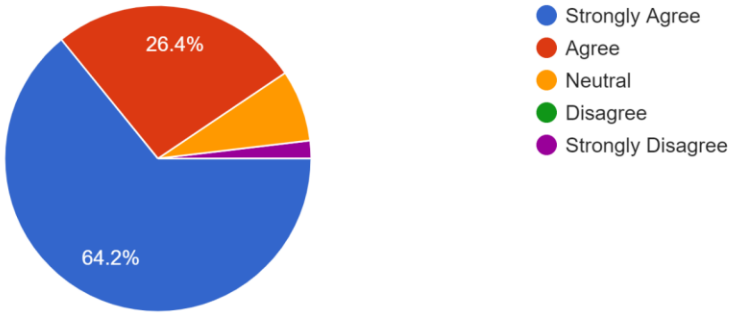
Department: Mathematics **Program: B.Sc.(H) Mathematics**

Semester: 6

1. **Paper Name: Complex Analysis (UPC: 32351601)**

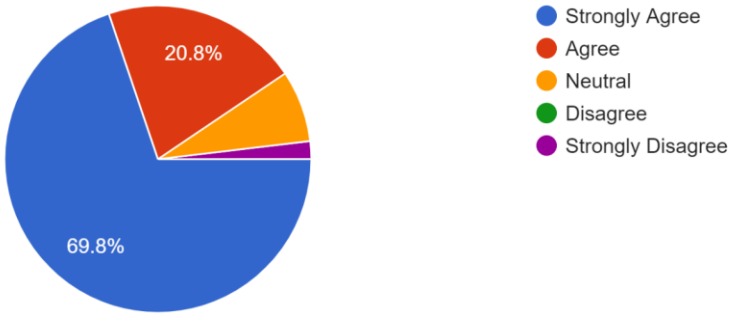
The course taught you the basic ideas of analysis for complex functions in complex variables with visualization through relevant practicals.

53 responses



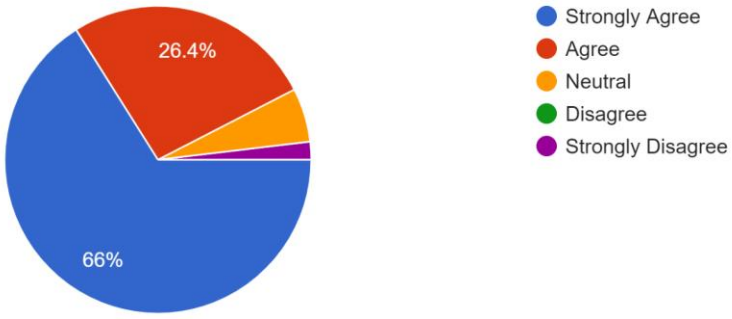
The course helped you to learn the significance of differentiability of complex functions leading to the understanding of Cauchy–Riemann equations.

53 responses



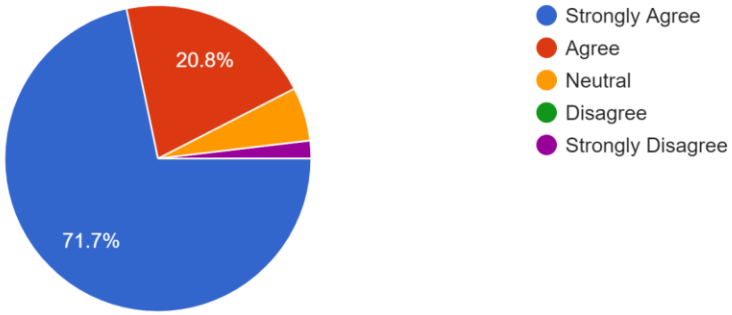
The course helped you to understand the elementary functions and valuate the contour integrals.

53 responses



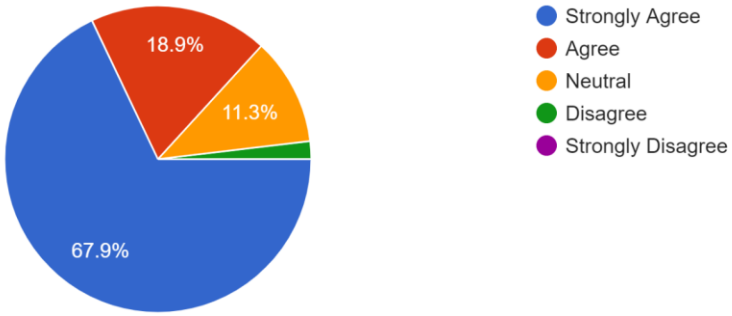
The course helped you to understand the role of Cauchy–Goursat theorem and the Cauchy integral formula.

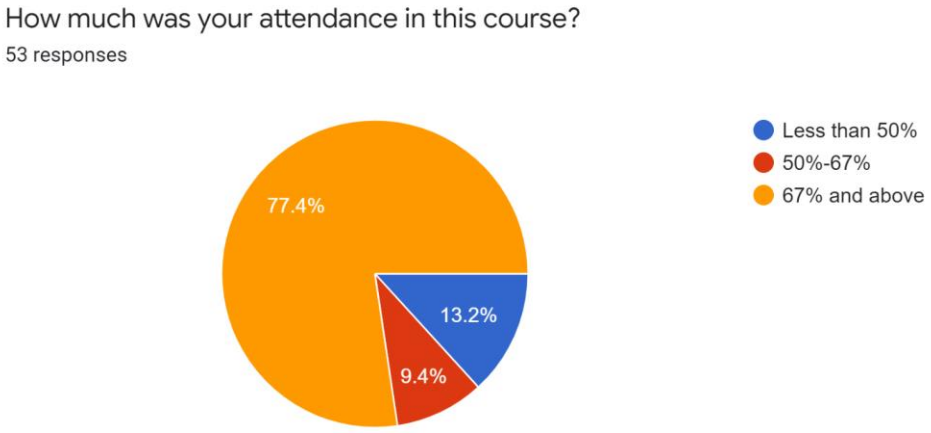
53 responses



The course helped you to learn the expansion of simple functions as their Taylor and Laurent series, classify the nature of singularities, find r... apply Cauchy Residue theorem to evaluate integrals.

53 responses





Observations:

From the given responses, it is observed that around 80-90 % of students strongly agreed and agreed that they got an understanding of the basic ideas of analysis for complex functions in complex variables with visualization through relevant practicals. learn the significance of differentiability of complex functions leading to the understanding of Cauchy−Riemann equations. They were able to understand the elementary functions and evaluate the contour integrals. It is also observed that students had an interest in the paper as 77.4% of students had more than 67% of attendance.

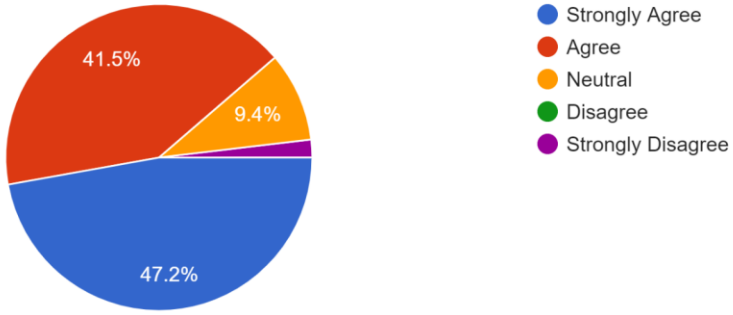
Action Taken:

For the moderate responses, topics will be discussed more with the students in tutorials. For the weak students, special classes will be held to discuss important questions with them. Measures will be taken to make the subject more engaging and appealing to the students in order to ensure higher attendance on their part. Assessments like quiz, presentations would also be done at regular intervals.

Paper Name: Ring Theory and Linear Algebra-II (UPC: 32351602)

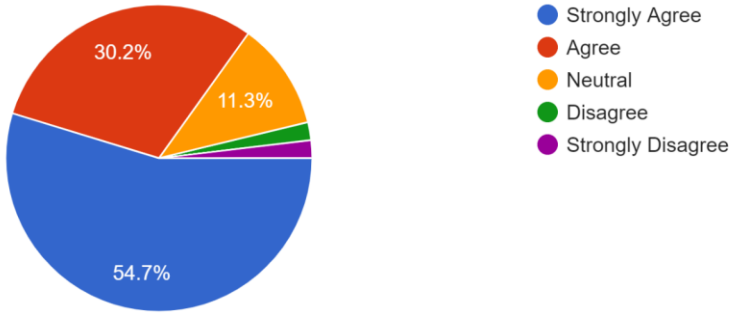
The course helped you to appreciate the significance of unique factorization in rings and integral domains.

53 responses



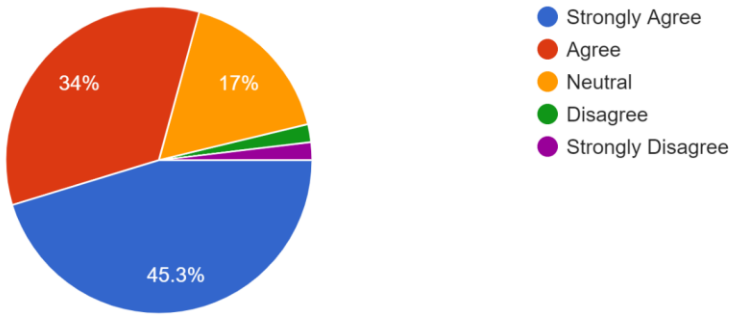
The course helped you to compute the characteristic polynomial, eigenvalues, eigenvectors, eigenspaces, as well as the geometric and the algebraic multiplicities of an eigenvalue

53 responses



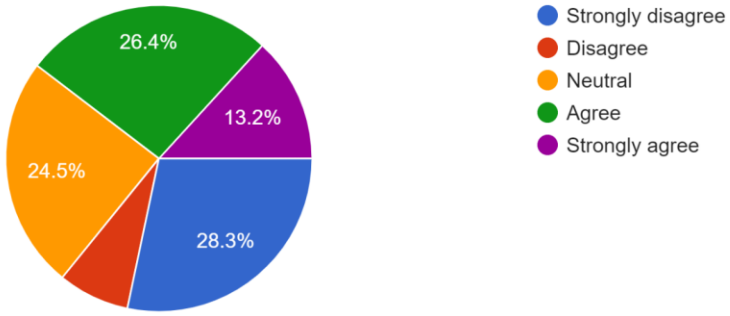
The course helped you to understand and compute inner products and determine orthogonality on vector spaces

53 responses



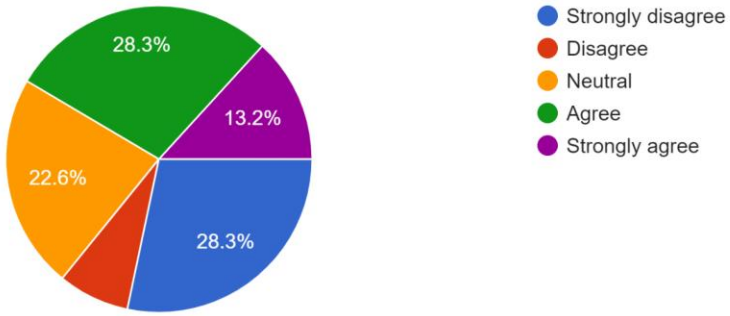
The course helped you to learn Gram–Schmidt orthogonalization to obtain orthonormal basis and understand its applications

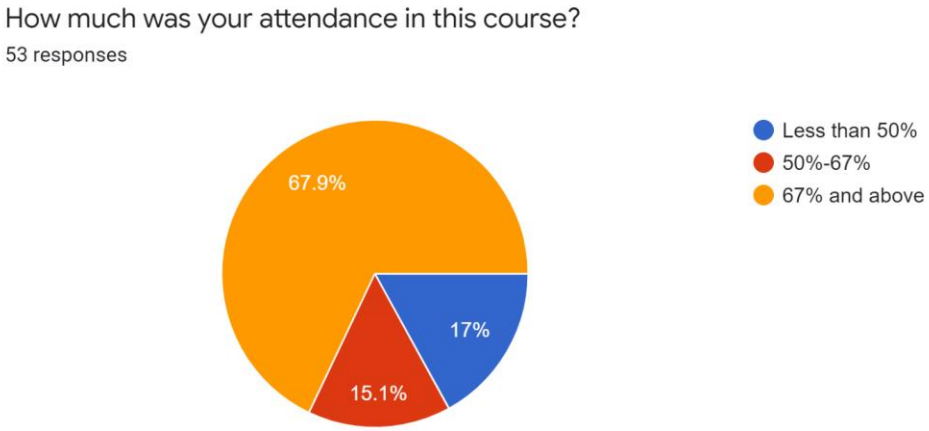
53 responses



The course helped you to find the adjoint, normal, unitary and orthogonal operators.

53 responses





Observations:

From the given responses, it is observed that 87 % of students strongly agreed and agreed that they were able to appreciate the significance of unique factorization in rings and integral domains. Around 70-80 % students agreed and strongly agreed that they were able to compute the characteristic polynomial, eigenvalues, eigenvectors, eigenspaces, as well as the geometric and the algebraic multiplicities of an eigenvalue. compute inner products and determine orthogonality on vector spaces and learn. Gram−Schmidt orthogonalization to obtain orthonormal basis and understand its applications. It is also observed that students need to be motivated for this course as nearly 68% students had more than 67% of attendance.

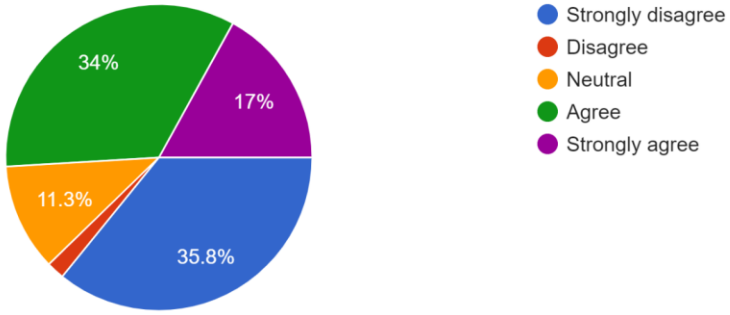
Action Taken:

For improving attendance the topics should be discussed with innovative ways so that students find the subject more interesting. For weaker students topics should be discussed more with the students in tutorials. Measures will be taken to make the subject more engaging and appealing to the students in order to ensure higher attendance on their part. Assessments would also be done at regular intervals.

Paper Name: DSE-3 (i): Mathematical Finance (UPC: 32357614)

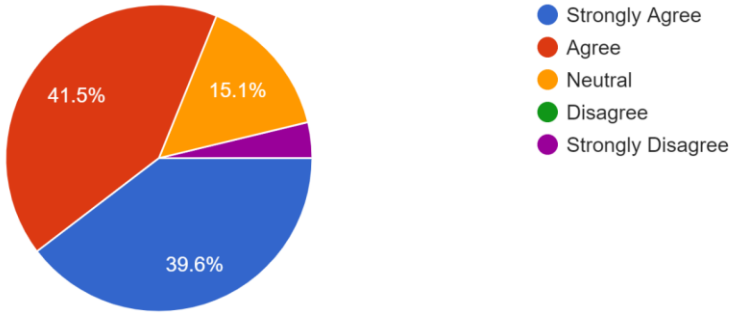
The course helped you to know the basics of financial markets and derivatives including options and futures.

53 responses



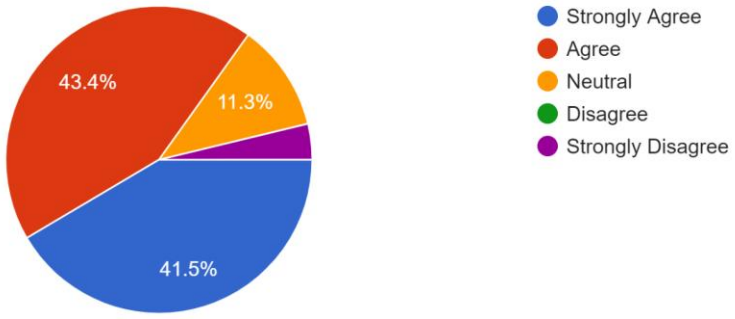
The course helped you to learn about pricing and hedging of options, as well as interest rate swaps.

53 responses



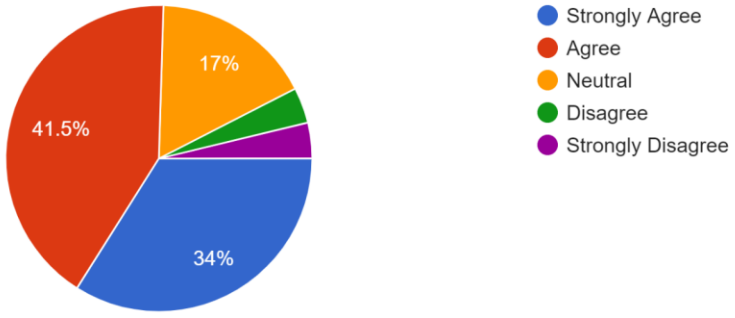
The course helped you to learn about no-arbitrage pricing concept and types of options.

53 responses



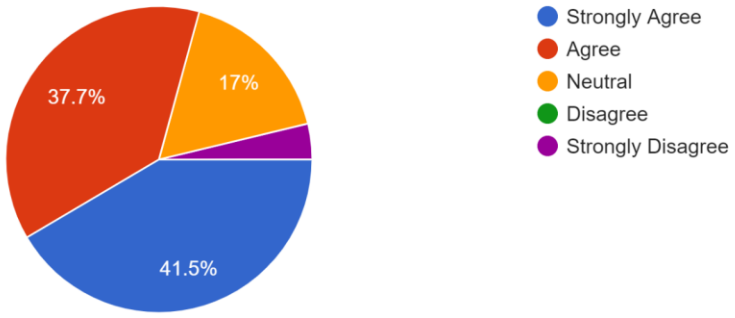
The course helped you to learn stochastic analysis (Ito formula and Ito integration) and the Black–Scholes model.

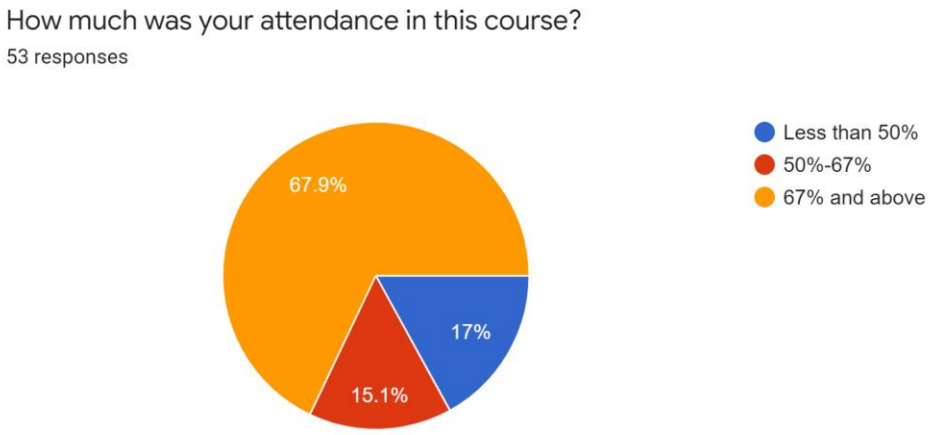
53 responses



The course helped you to understand the concepts of trading strategies and valuation of currency swaps.

53 responses





Observations:

From the given responses, it is observed that 70-80% of students who opted for this course strongly agreed and agreed that they got an understandingThe course helped you to learn about pricing and hedging of options, as well as interest rate swaps. They were able to learn about the no-arbitrage pricing concept and types of options. The course helped you to learn stochastic analysis (Ito formula and Ito integration) and the Black−Scholes model. Only 51% of the students were able to understand the basics of financial markets and derivatives including options and futures. It is also observed that students need to be motivated to attend the course as nearly 68 %of students had more than 67% of attendance.

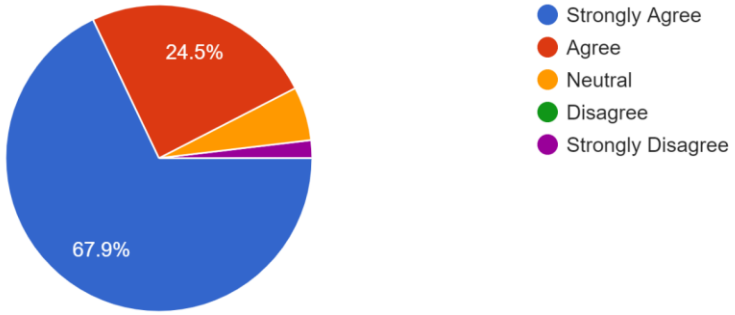
Action Taken:

For the moderate responses, topics will be discussed more with the students in tutorials. For the weak students, special classes will be held to discuss important questions with them. The topic of basics of financial markets and derivatives including options and futures should be explained by an innovative and practical approach so that students are able to learn easily. Measures will be taken to make the subject more engaging and appealing to the students in order to ensure higher attendance on their part. Assessments would also be done at regular intervals.

Paper Name: DSE-4 (ii): Linear Programming and Applications (UPC: 32357616)

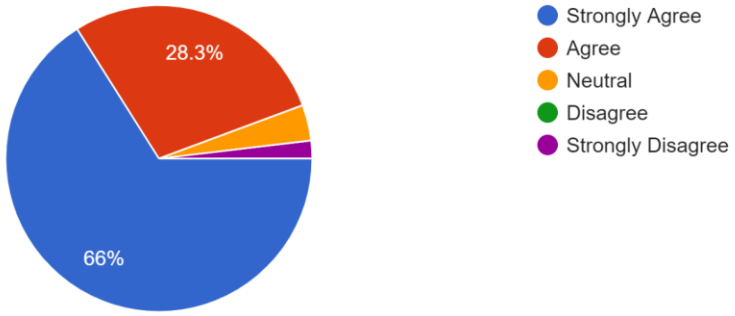
The course helped you to learn about the graphical solution of linear programming problem with two variables.

53 responses



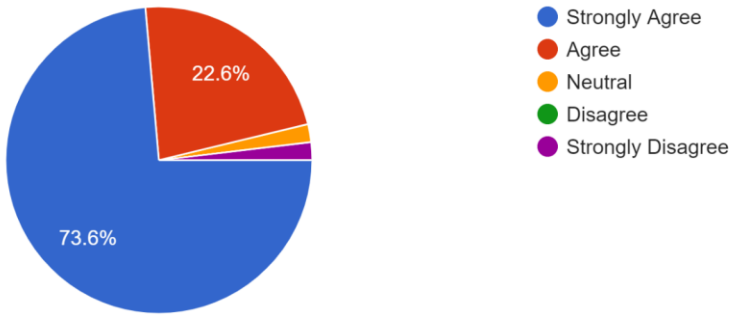
The course helped you to learn about the relation between basic feasible solutions and extreme points.

53 responses



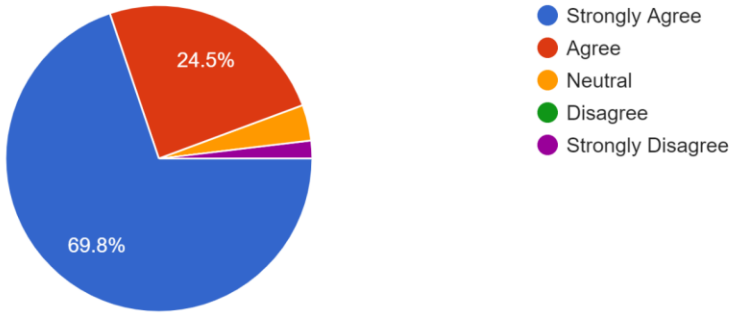
The course helped you to learn about the simplex method used to solve linear programming problems.

53 responses



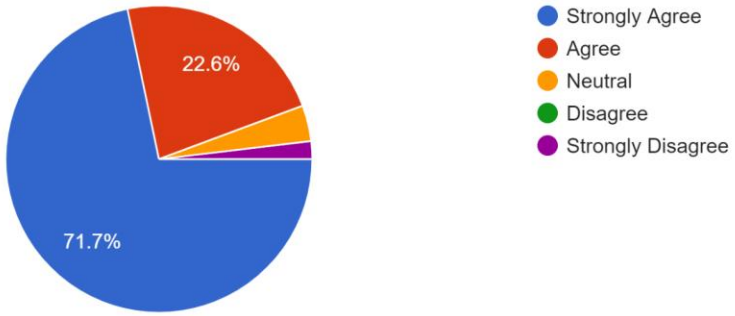
The course helped you to learn about two-phase and big-M methods to deal with problems involving artificial variables.

53 responses



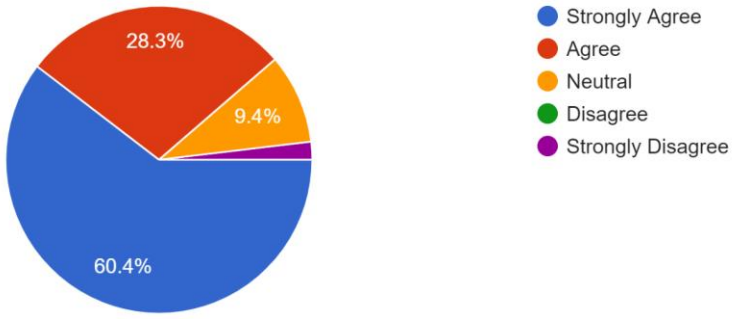
The course helped you to learn about the relationships between the primal and dual problems.

53 responses



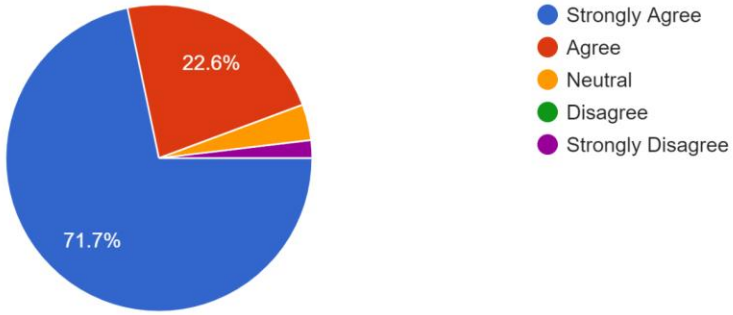
The course taught you to solve transportation and assignment problems.

53 responses



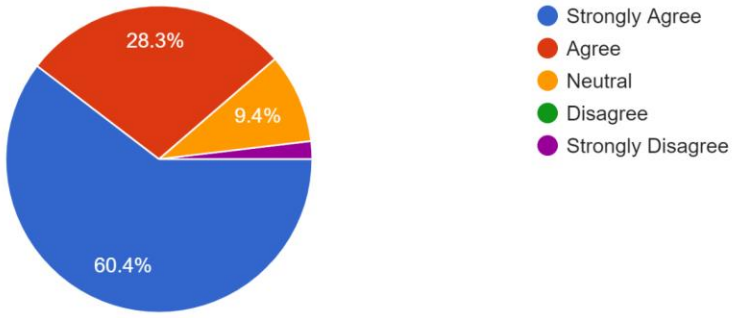
The course helped you to learn about the relationships between the primal and dual problems.

53 responses



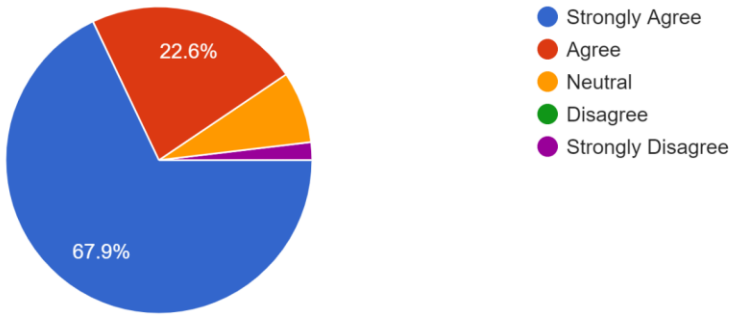
The course taught you to solve transportation and assignment problems.

53 responses



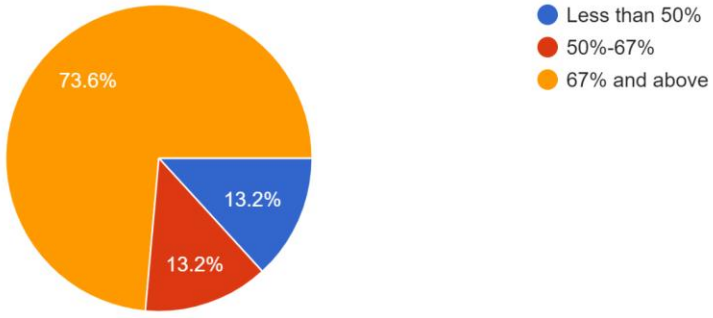
The course provided you the ability to apply linear programming method to solve two-person zero-sum game problems.

53 responses



How much was your attendance in this course?

53 responses



Observations:

From the given responses, it is observed that 85-90% of students who opted for this course strongly agreed and agreed that they were able to understand the graphical solution of linear programming problem with two variables. They were also able to learn about the relation between basic feasible solutions and extreme points. They were able to understand the simplex method used to solve linear programming problems, two-phase and big-M methods to deal with problems involving artificial variables. It is also observed that students had an interest in the paper as more than 85% of students had more than 67% of attendance.

Action Taken:

For the moderate responses, topics will be discussed more with the students in tutorials. For the weak students, special classes will be held to discuss important questions with them. Measures will be taken to make the subject more engaging and appealing. Assessments would also be done at regular intervals.

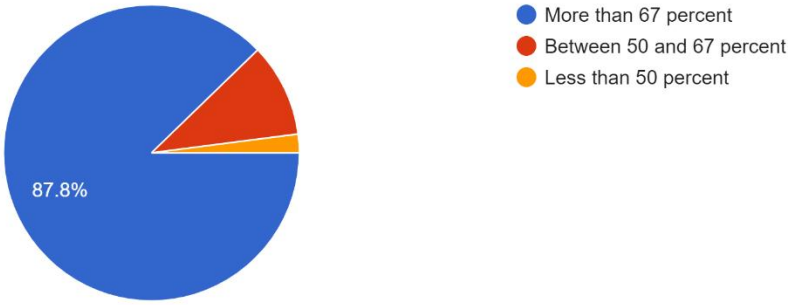
COURSE EXIT SURVEY: Analysis Report
Academic Session: 2021-22

Department: Mathematics **Program: B.Sc.(H) Mathematics**

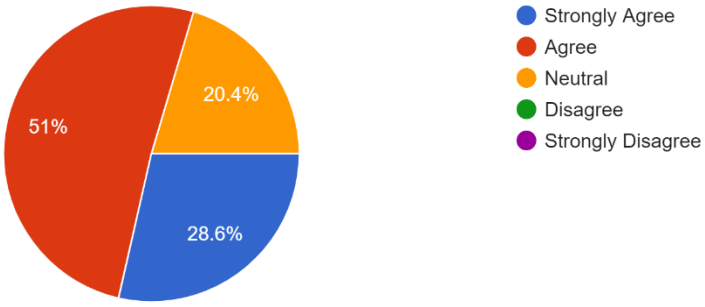
Semester: 5

Paper Name: Metric Spaces (UPC: 32351501)

Percentage of Classes Attended in this Course.
49 responses

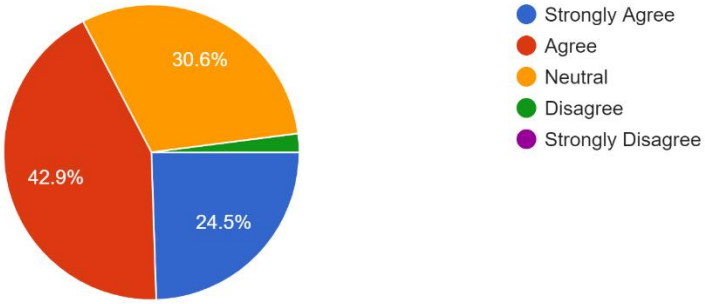


You were able to learn various natural and abstract formulations of distance on the sets of usual or unusual entities. Become aware one such formulations leading to metric spaces.
49 responses



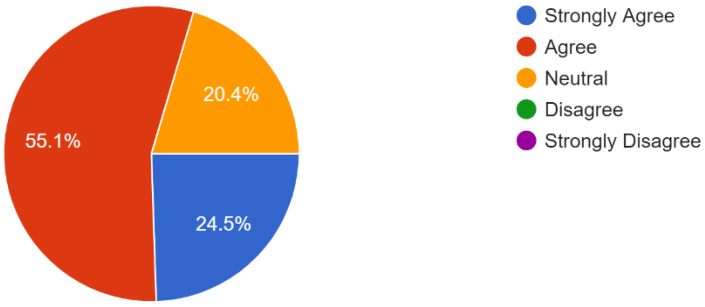
You were able to analyze how a theory advances from a particular frame to a general frame.

49 responses



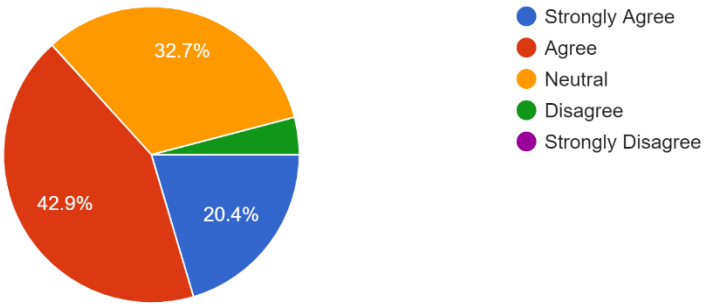
You Appreciated the mathematical understanding of various geometrical concepts, viz. balls or connected sets etc. in an abstract setting.

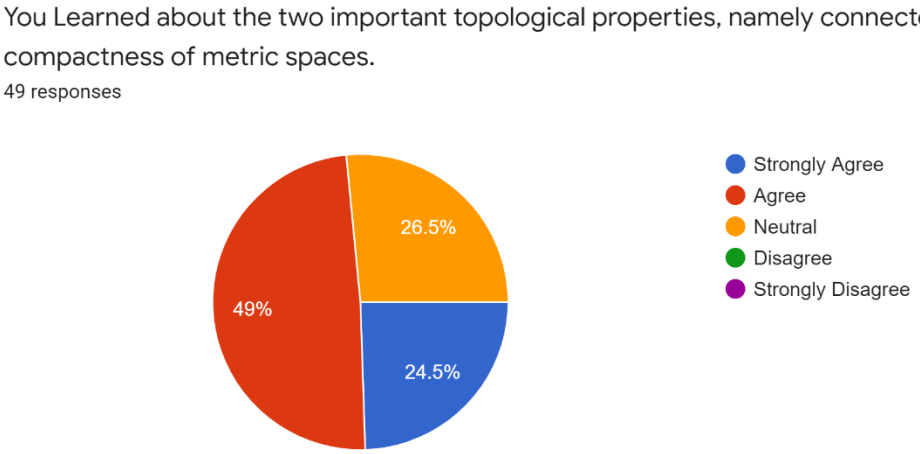
49 responses



You got to Know about Banach fixed point theorem, whose far-reaching consequences have resulted into an independent branch of study in analysis, known as fixed point theory.

49 responses





Observations:

From the given responses, it is observed that around 70% - 80% of students strongly agreed and agreed that they got an understanding of the various natural and abstract formulations of distance on the sets of usual or unusual entities. They were able to analyze how a theory advances from a particular frame to a general frame. The majority of students understood the concept of two important topological properties, namely connectedness and compactness of metric spaces. It is also observed that students had an interest in the paper as 87.8% of students had more than 67% of attendance.

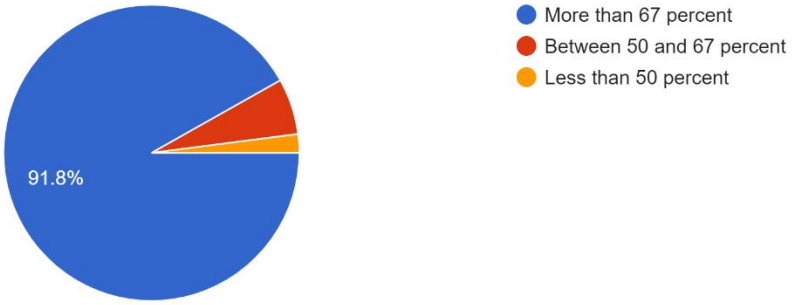
Action Taken:

For the moderate responses, topics will be discussed more with the students in tutorials. For the weak students, special classes will be held to discuss important questions with them. Measures will be taken to make the subject more engaging and appealing to the students in order to ensure higher attendance on their part. Assessments would also be done at regular intervals.

Paper Name: Group Theory-II (UPC: 32351502)

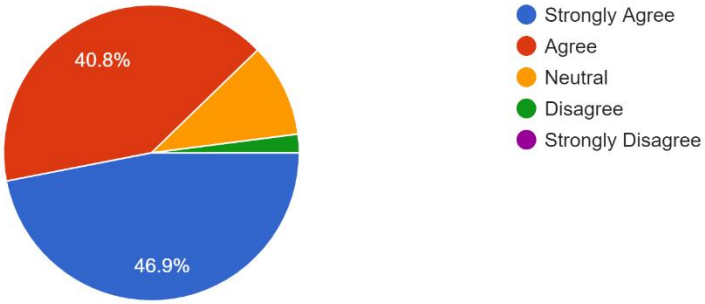
Percentage of Classes Attended in this Course.

49 responses



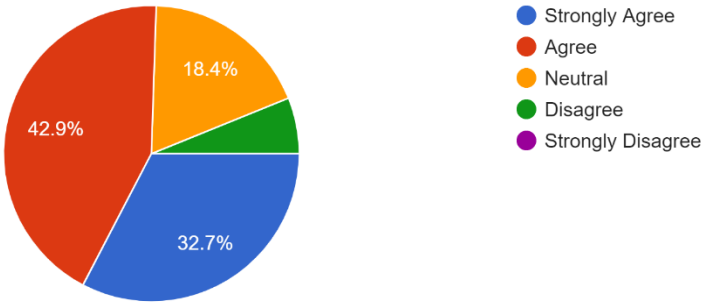
You Learned about automorphisms for constructing new groups from the given group.

49 responses



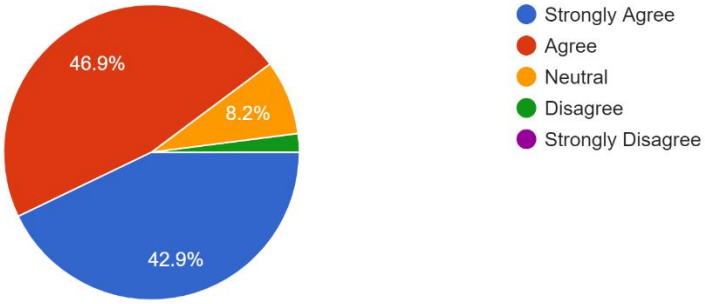
You Learned about the fact that external direct product applies to data security and electric circuits.

49 responses



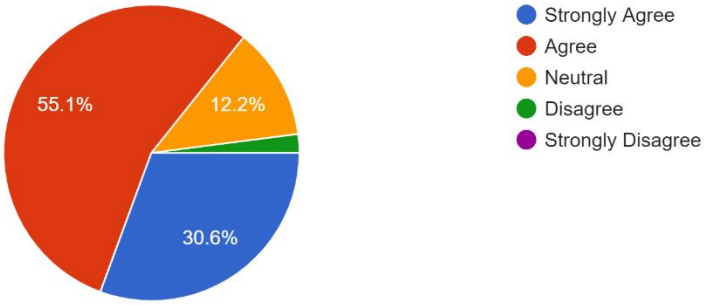
You Understood fundamental theorem of finite abelian groups.

49 responses



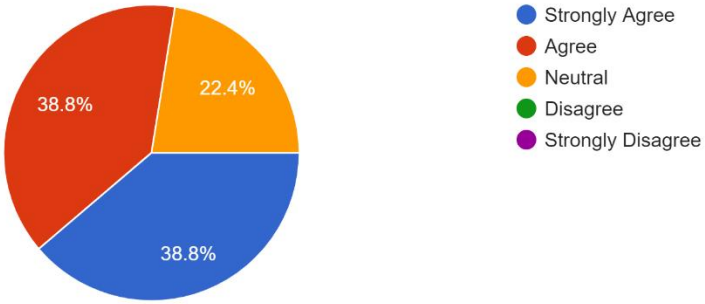
You Became familiar with group actions and conjugacy in Sn.

49 responses



You Understood Sylow theorems and their applications in checking non simplicity.

49 responses



Observations:

From the given responses, it is observed that around 80% - 90% of students strongly agreed and agreed that they got an understanding about automorphisms for constructing new groups from the given group, fundamental theorem of finite abelian groups and became familiar with group actions and conjugacy in Sn. Majority were able to understood Sylow theorems and their applications in checking non simplicity. It is also observed that students had an interest in the paper as 91.8% of students had more than 67% of attendance.

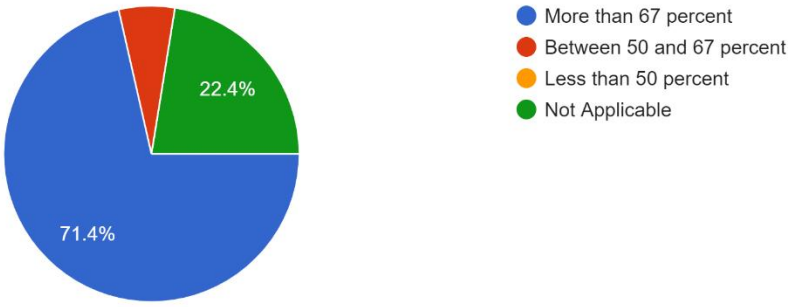
Action Taken:

For the moderate responses, topics will be discussed more with the students in tutorials. For the weak students, special classes will be held to discuss important questions with them. Measures will be taken to make the subject more engaging and appealing to the students in order to ensure higher attendance on their part. Assessments would also be done at regular intervals.

Paper Name: DSE-1(i)- Numerical Analysis (UPC: 32357501)

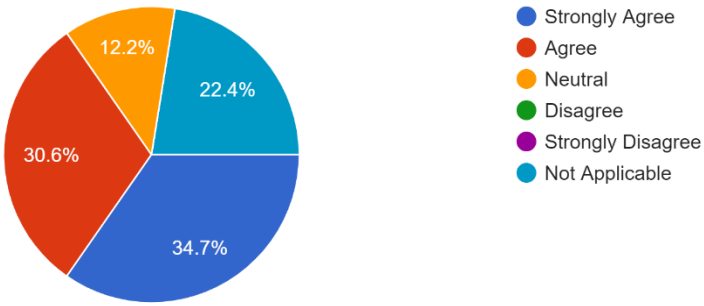
Percentage of Classes Attended in this Course.

49 responses



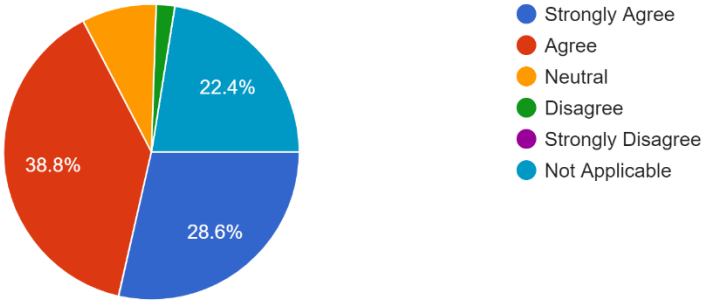
You Learned some numerical methods to find the zeroes of nonlinear functions of a single variable and solution of a system of linear equations, up to a certain given level of precision.

49 responses



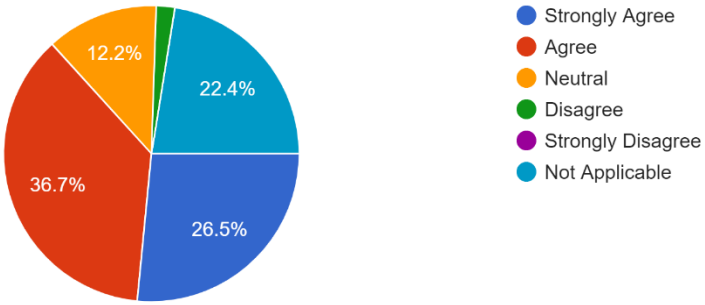
You got to know about methods to solve system of linear equations, such as Gauss–Jacobi, Gauss–Seidel and SOR methods.

49 responses



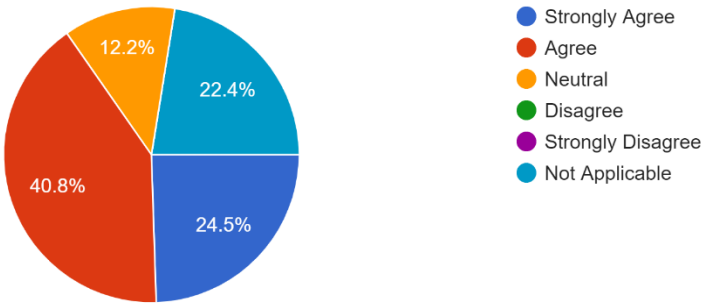
You learned Interpolation techniques to compute the values for a tabulated function at points not in the table.

49 responses



You learned about Applications of numerical differentiation and integration to convert differential equations into difference equations for numerical solutions.

49 responses



Observations:

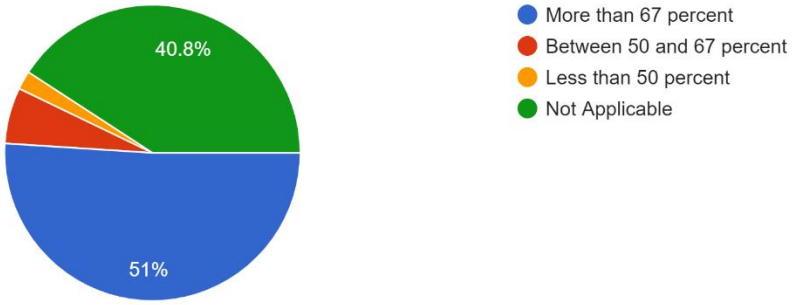
From the given responses, it is observed that more than 80% of students who opted for this course strongly agreed and agreed that they got an understanding of the numerical methods to find the zeroes of nonlinear functions of a single variable and solution of a system of linear equations, up to a certain given level of precision. They got to know got to know about methods to solve system of linear equations, such as Gauss−Jacobi, Gauss−Seidel and SOR methods. They were able to understand about Interpolation techniques to compute the values for a tabulated function at points not in the table. It is also observed that students had an interest in the paper as more than 90% of students had more than 67% of attendance.

Action Taken:

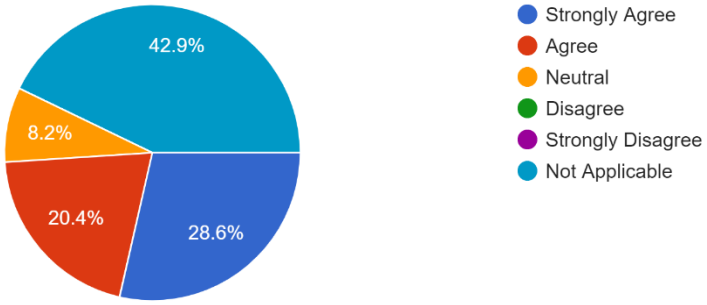
For the moderate responses, topics will be discussed more with the students in tutorials. For the weak students, special classes will be held to discuss important questions with them. Measures will be taken to make the subject more engaging and appealing to the students in order to ensure higher attendance on their part. Assessments would also be done at regular intervals.

Paper Name: DSE-1(iii)- C++ Programming for Mathematics (UPC: 32357503)

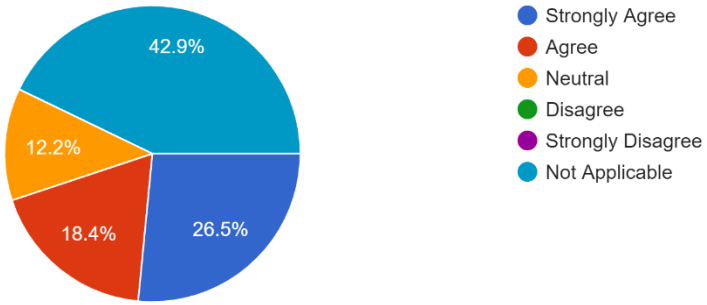
Percentage of Classes attended in this course.
49 responses



You were able to Understand and apply the programming concepts of C++ which is important to mathematical investigation and problem solving.
49 responses

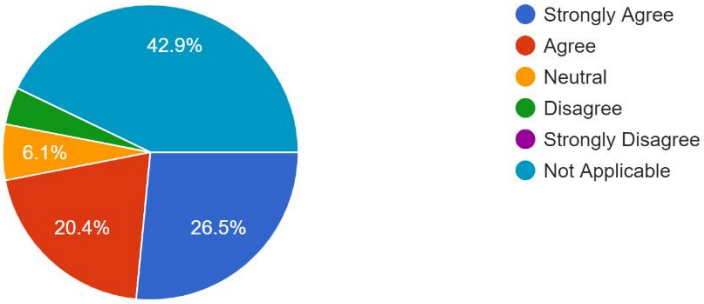


You Learned about structured data-types in C++ and learned about applications in factorization of an integer and understanding Cartesian geometry and Pythagorean triples.
49 responses



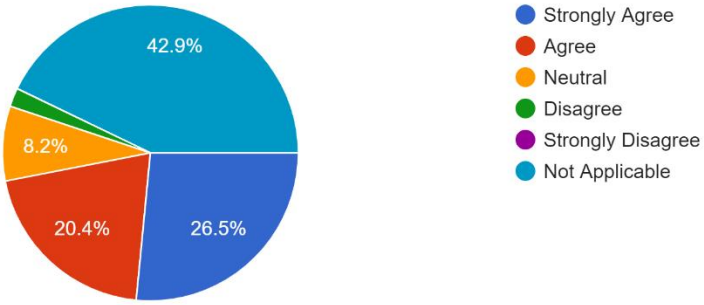
You were able to see use of containers and templates in various applications in algebra.

49 responses



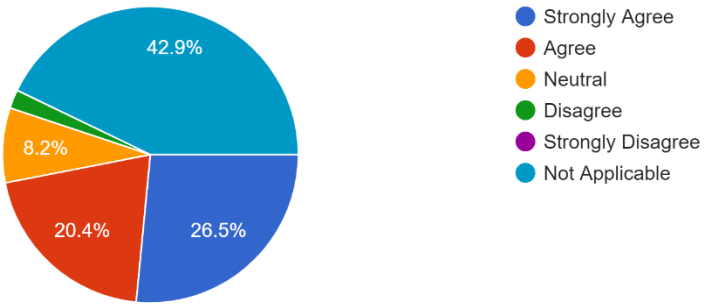
You were able to use mathematical libraries for computational objectives.

49 responses



You were able to represent the outputs of programs visually in terms of well formatted text and plots.

49 responses



Observations:

From the given responses, it is observed that 70%-80% of students who opted for this course strongly agreed and agreed that they were able to understand and apply the programming concepts of C++ which is important to mathematical investigation and problem solving. They were able to understand structured data-types in C++ and learned about applications in factorization of an integer and understanding Cartesian geometry and Pythagorean triples. They were able to use mathematical libraries for computational objectives. It is also observed that students had an interest in the paper as more than 85% of students had more than 67% of attendance.

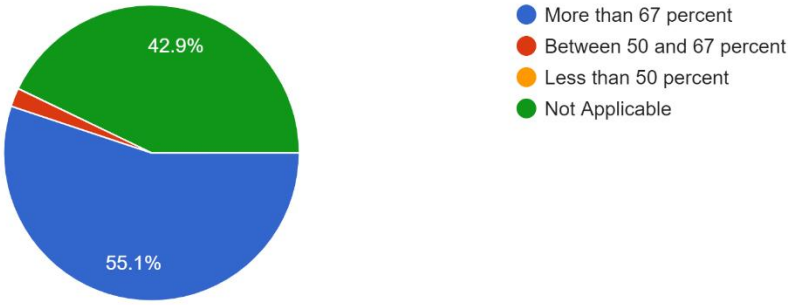
Action Taken:

For the moderate responses, topics will be discussed more with the students in tutorials. For the weak students, special classes will be held to discuss important questions with them. Measures will be taken to make the subject more engaging and appealing to the students in order to ensure higher attendance on their part. Assessments would also be done at regular intervals.

Paper Name: DSE-2(ii)- Probability Theory and Statistics (UPC: 32357507)

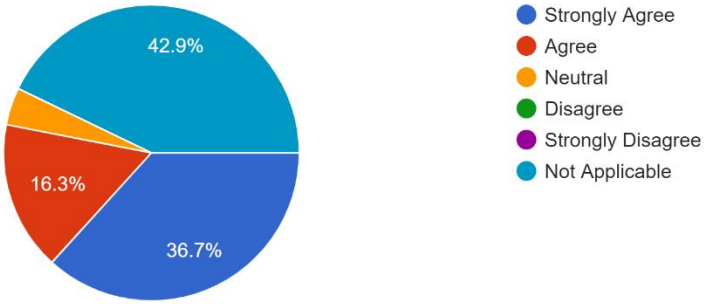
Percentage of Classes Attended in this course

49 responses



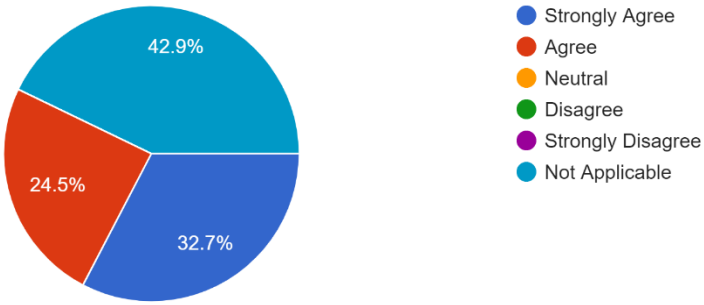
You Learned about probability density and moment generating functions.

49 responses



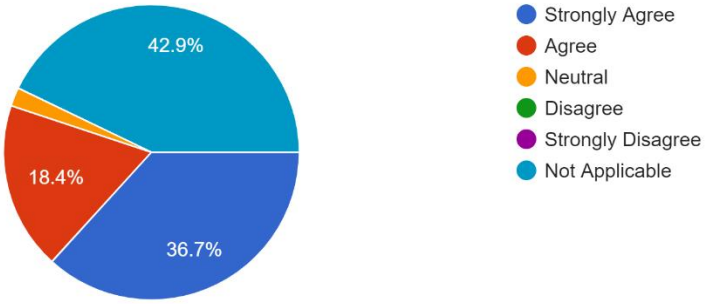
You got to know about various univariate distributions such as Bernoulli, Binomial, Poisson, gamma and exponential distributions.

49 responses



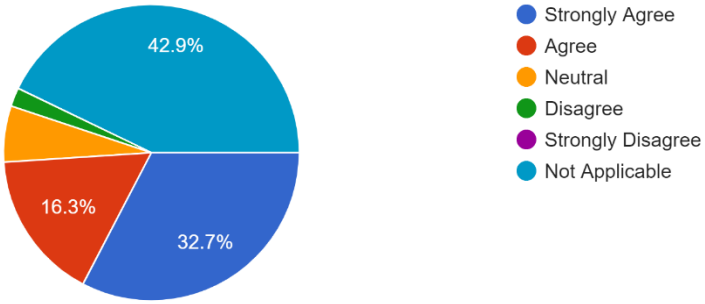
You Learned about distributions to study the joint behavior of two random variables.

49 responses



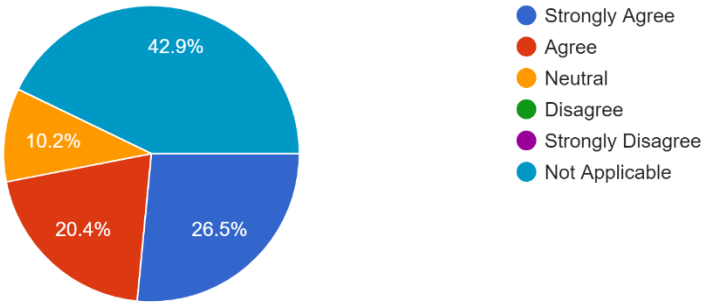
You were able to Measure the scale of association between two variables, and to establish a formulation helping to predict one variable in terms of the other, i.e., correlation and linear regression.

49 responses



You were able to understand central limit theorem, which helps to understand the remarkable fact that the empirical frequencies of so many natural po...it a bell-shaped curve, i.e., a normal distribution.

49 responses



Observations:

From the given responses, it is observed that more than 90% of students who opted for this course strongly agreed and agreed that they learned about probability density and moment generating functions, various univariate distributions such as Bernoulli, Binomial, Poisson, gamma and exponential distributions and joint behavior of two random variables. The majority of students were able to Measure the scale of association between two variables, and to establish a formulation helping to predict one variable in terms of the other, i.e., correlation and linear regression. It is also observed that students had an interest in the paper as about 95% of students had more than 67% of attendance.

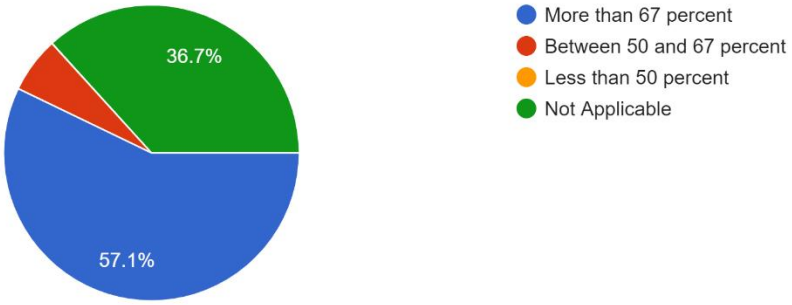
Action Taken:

For the moderate responses, topics will be discussed more with the students in tutorials. For the weak students, special classes will be held to discuss important questions with them. Measures will be taken to make the subject more engaging and appealing to the students in order to ensure higher attendance on their part. Assessments would also be done at regular intervals.

Paper Name: DSE-2 (ii)-Discrete Mathematics (UPC: 32357505)

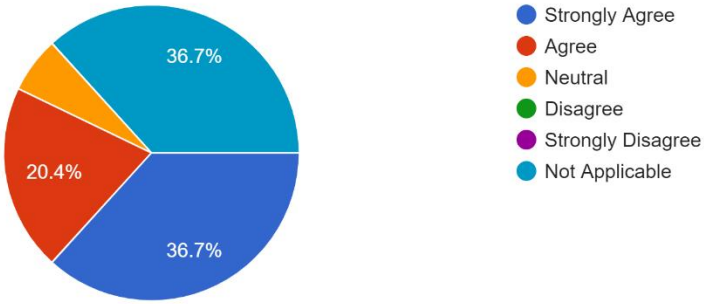
Percentage of Classes Attended in this Course.

49 responses



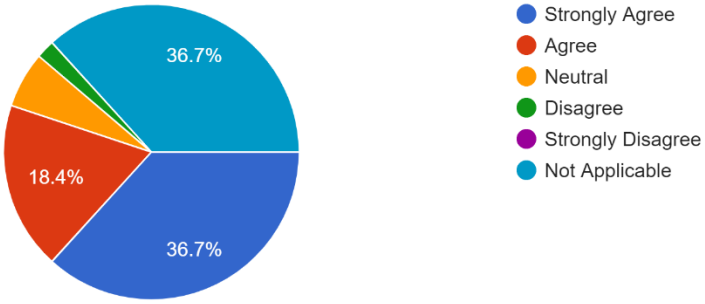
You were able to Understand the notion of ordered sets and maps between ordered set.

49 responses



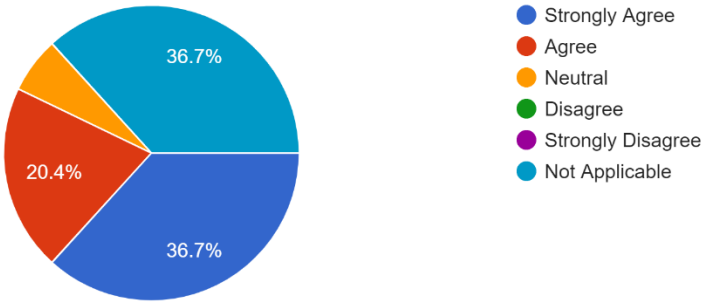
You became familiar with Boolean algebra, Boolean homomorphism, Karnaugh diagrams, switching circuits and their applications.

49 responses



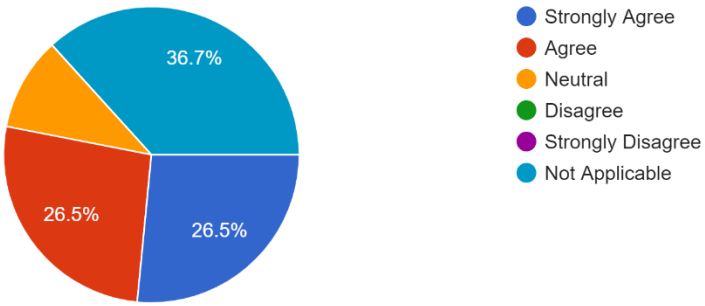
You Learned about lattices, modular and distributive lattices, sublattices and homomorphisms between lattices.

49 responses



You were able to learn about the applications of graph theory in the study of shortest path algorithms.

49 responses



Observations:

From the given responses, it is observed that more than 85% of students who opted for this course strongly agreed and agreed that they understood the notion of ordered sets and maps between ordered set, lattices, modular and distributive lattices, sublattices and homomorphisms between lattices, Boolean algebra, Boolean homomorphism, Karnaugh diagrams, switching circuits and their applications and applications of graph theory in the study of shortest path algorithms. It is also observed that students had an interest in the paper as about 89% of students had more than 67% of attendance.

COURSE EXIT SURVEY: Analysis Report
Academic Session: 2021-22

Department: Mathematics

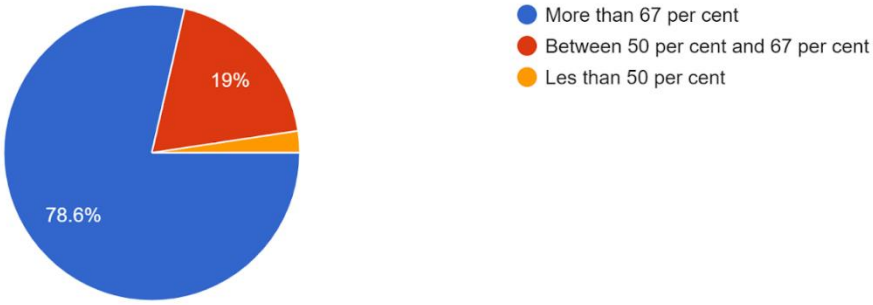
Program: B.Sc(H) Mathematics

Semester: 4

Paper Name: BMATH408: Partial Differential Equations

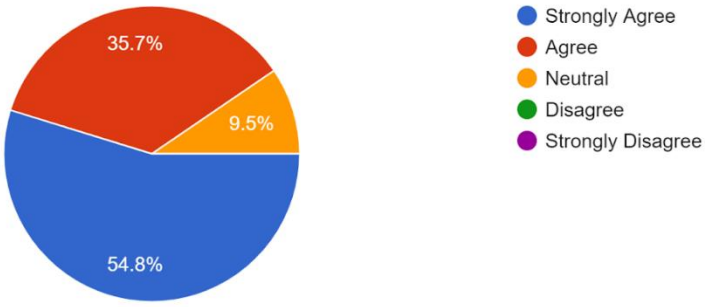
Percentage of classes attended

42 responses



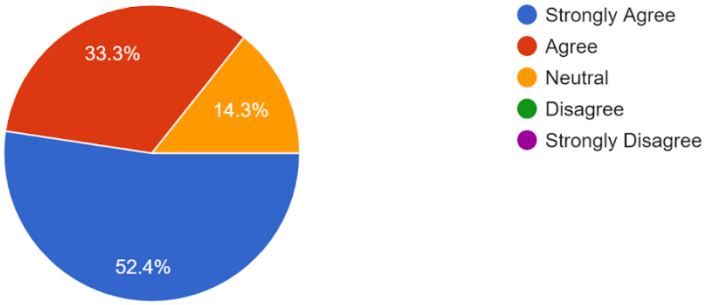
You have learned to Formulate, classify and transform first order PDEs into canonical form.

42 responses



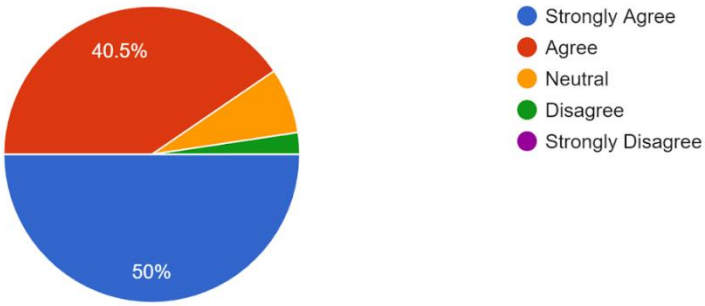
You have learned about method of characteristics and separation of variables to solve first orderPDE's.

42 responses



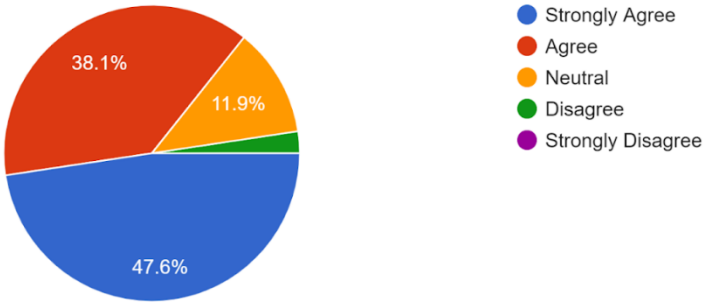
You understood to Classify and solve second order linear PDEs.

42 responses



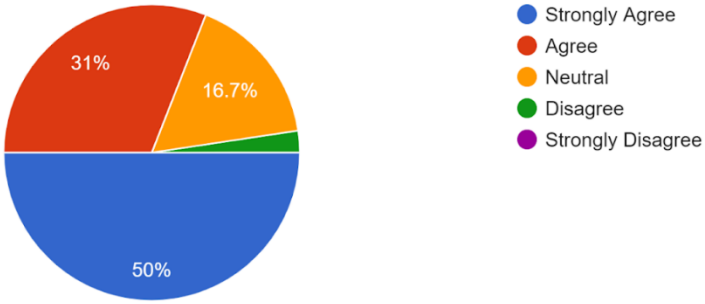
You have learned about Cauchy problem for second order PDE and homogeneous and non-homogeneous wave equation

42 responses



You have learned to Apply the method of separation of variables for solving many well-known second order PDEs.

42 responses



Observations:

From the given responses, it is observed that around 90% of students strongly agreed and agreed that they got an understanding of formulate, classify and transform first order PDEs into canonical form and around 85% of students strongly agreed and agreed that they got an understanding of method of characteristics and separation of variables to solve first order PDE's, around 90% of students strongly agreed and agreed that they got an understanding of classify and solve second order linear PDEs. and around 85% of students strongly agreed and agreed that they got an understanding about Cauchy problem for second order PDE and homogeneous and non-homogeneous wave equation, and around 81% apply the method of separation of variables for solving many well-known second order PDEs.

It is also observed that students had keen interest in the paper as 78.6% of students had more than 67% of attendance.

Action Taken

The response to this paper has been encouraging. More efforts will be made to keep students intrigued.

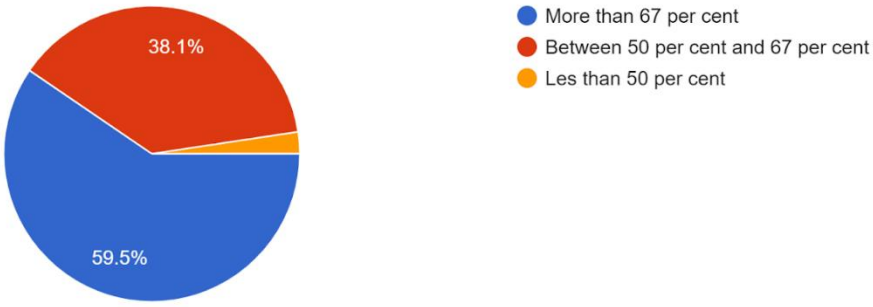
Program: B.Sc(H) Mathematics

Semester: 4

Paper Name: BMATH409: Riemann Integration & Series of Functions

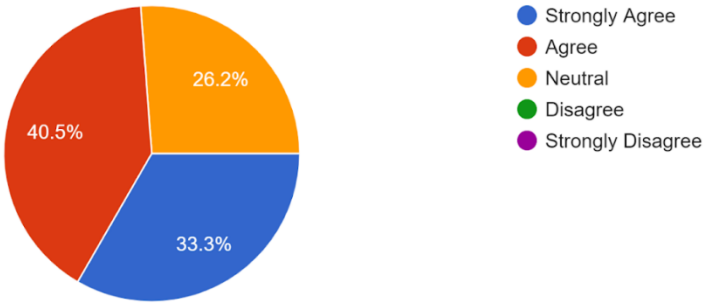
Percentage of classes attended

42 responses



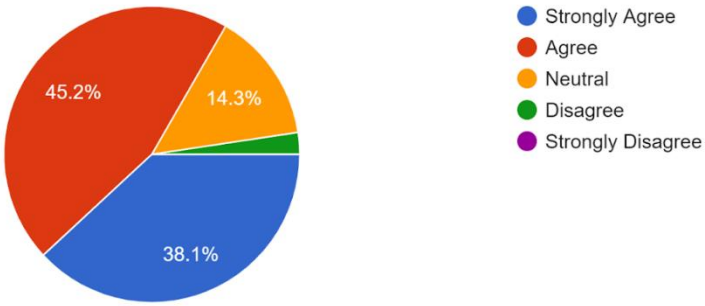
You have learned about some of the classes and properties of Riemann integrable functions, and the applications of the Fundamental theorems of integration.

42 responses



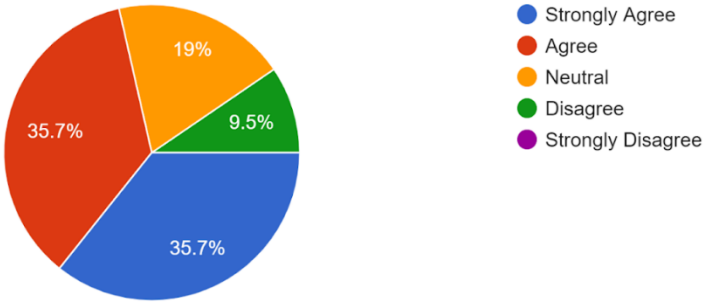
You have learned about improper integrals including, beta and gamma functions

42 responses



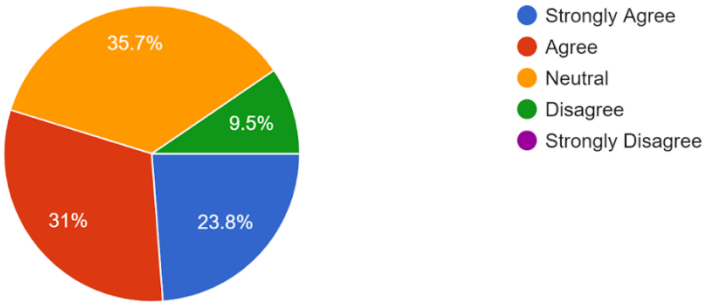
You understood to about Cauchy criterion for uniform convergence and Weierstrass M-test foruniform convergence.

42 responses



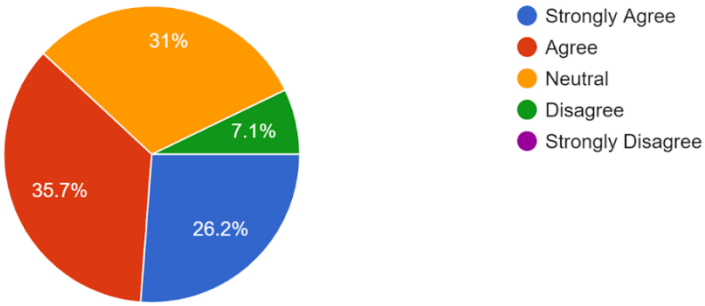
You have learned about the constraints for the inter-changeability of differentiability and integrability with infinite sum.

42 responses



You have learned to Approximate transcendental functions in terms of power series as well as, differentiation and integration of power series.

42 responses



Observations:

From the given responses, it is observed that around 73% of students strongly agreed and agreed that they got an understanding of some of the classes and properties of Riemann integrable functions, and the applications of the Fundamental theorems of integration. It is observed that around 83% of students strongly agreed and agreed that they got an understanding about improper integrals including, beta and gamma function and around 71% of students understood to about Cauchy criterion for uniform convergence and Weierstrass M-test for uniform convergence, and around 54% of students strongly agreed and agreed that they got an understanding about the constraints for the inter-changeability of differentiability and integrability with infinite sum. And 61% students got understanding about Approximate transcendental functions in terms of power series as well as, differentiation and integration of power series.

It is also observed that students had keen interest in the paper as 59.5% of students had more than 67% of attendance.

Action Taken

The response to this paper has been encouraging. More efforts will be made to keep students intrigued.

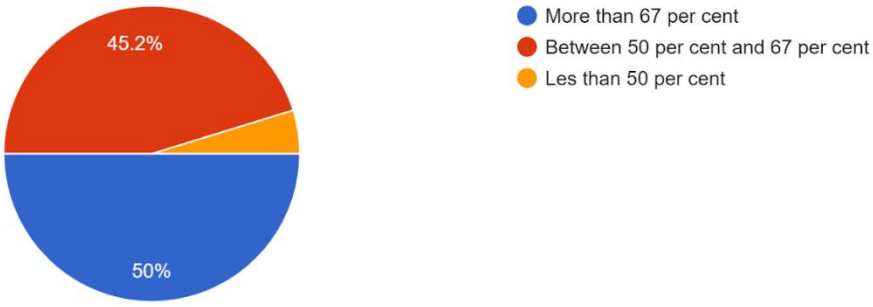
Program: B.Sc(H) Mathematics

Semester: 4

Paper Name: BMATH410: Ring Theory & Linear Algebra

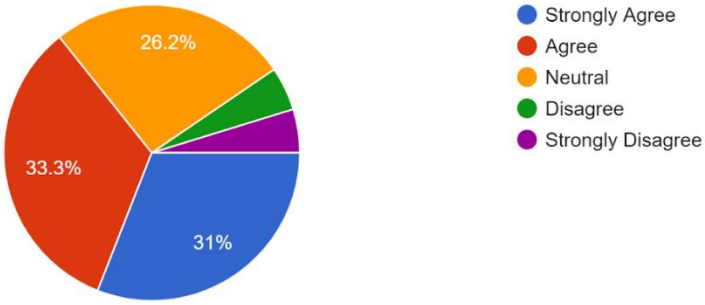
Percentage of classes attended

42 responses



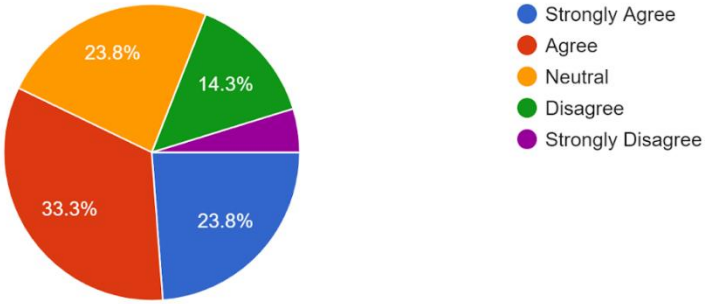
You have learned about the fundamental concept of rings, integral domains and fields.

42 responses



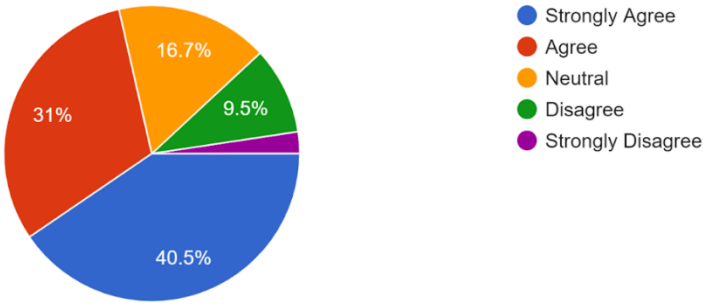
You have learned about ring homomorphisms and isomorphisms theorems of rings.

42 responses



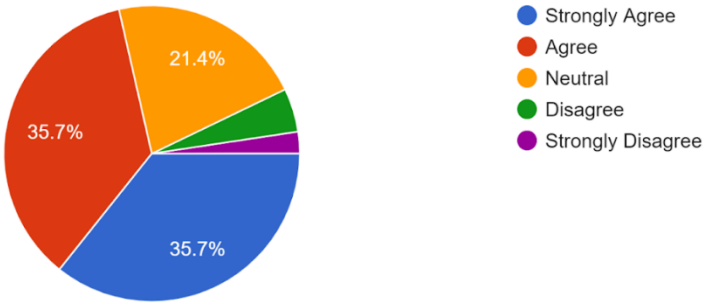
You understood to about the concept of linear independence of vectors over a field, and the dimension of a vector space.

42 responses



You have learned about the Basic concepts of linear transformations, dimension theorem, matrix representation of a linear transformation, and the change of coordinate matrix.

42 responses



Observations:

From the given responses, it is observed that around 64% of students strongly agreed and agreed that they got an understanding about the fundamental concept of rings, integral domains and fields and around 56% of students strongly agreed and agreed that they got an understanding about the ring homomorphisms and isomorphisms theorems of rings. Around 71% of students strongly agreed and agreed that they got an understanding the concept of linear independence of vectors over a field, and the dimension of a vector space, and around 71% of students strongly agreed and agreed that they got an understanding the conceptabout the Basic concepts of linear transformations, dimension theorem, matrix representation of a linear transformation, and the change of coordinate matrix.

It is also observed that students had keen interest in the paper as 50% of students had more than 67% of attendance.

Action Taken

The response to this paper has been encouraging. More efforts will be made to keep students intrigued.

Program: B.Sc(H) Mathematics

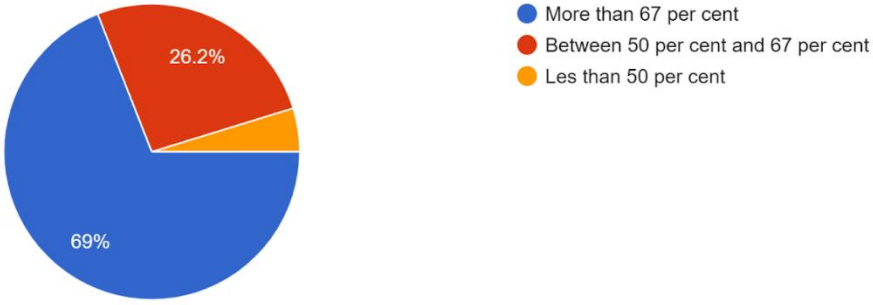
Semester: 4

Paper Name: SEC-2: Computer Algebra Systems and Related Software

Observations:

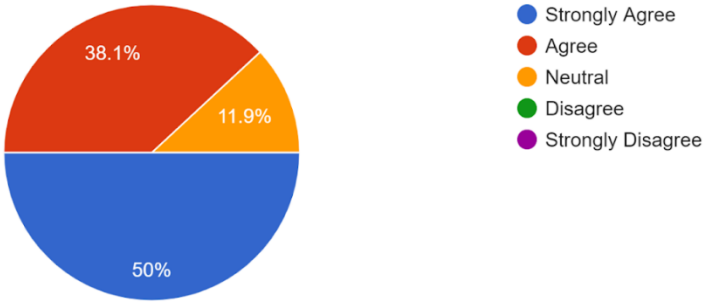
Percentage of classes attended

42 responses



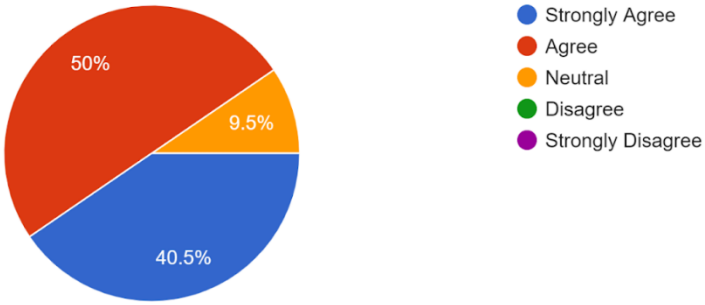
You have learned to Use of computer algebra systems (Mathematica/MATLAB/Maxima/Maple etc.) as a calculator, for plotting functions and animations

42 responses



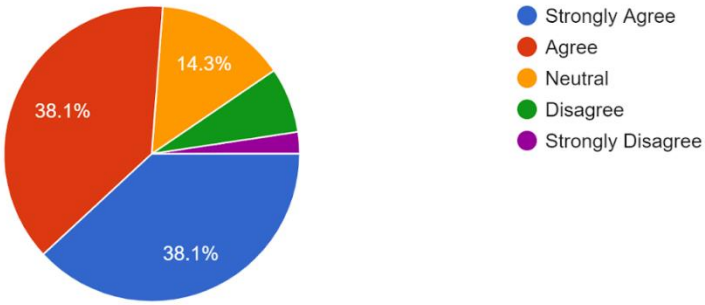
You have learned to Use of CAS for various applications of matrices such as solving system of equations and finding eigenvalues and eigenvectors.

42 responses



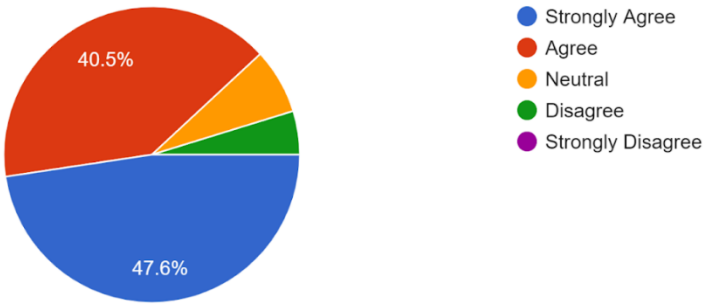
You understood to Analyze, test, and interpret technical arguments on the basis of geometry.

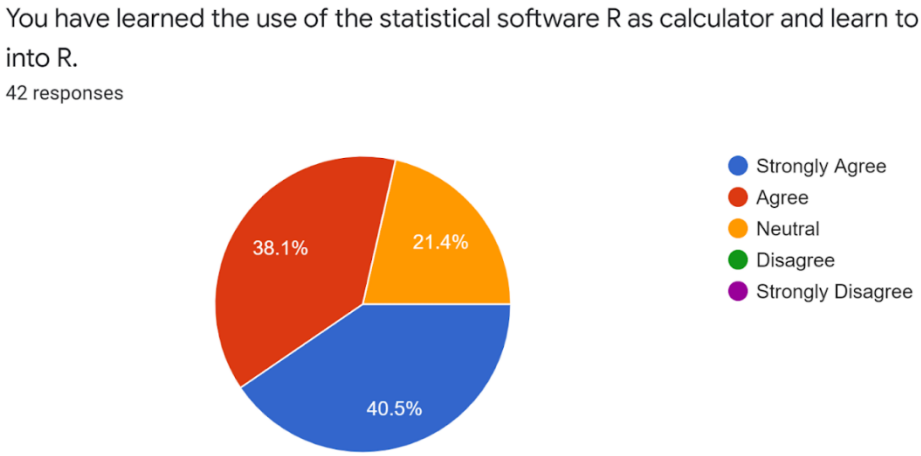
42 responses



You have learned the use of R in summary calculation, pictorial representation of data and exploring relationship between data

42 responses





From the given responses, it is observed that around 88% of students strongly agreed and agreed that they got an understanding about to Use of computer algebra systems (Mathematica /MATLAB/Maxima/Maple etc.) as a calculator, for plotting functions and animations, 90% have learned to Use of CAS for various applications of matrices such as solving system of equations and finding eigenvalues and eigenvectors, 78% understood to Analyze, test, and interpret technical arguments on the basis of geometry, 87% have learned the use of R in summary calculation, pictorial representation of data and exploring relationship between data, 78% have leaned to use of the statistical software R as calculator and learn to read and get data into R.

It is also observed that students had keen interest in the paper as 69% of students had more than 67% of attendance.

Action Taken

The response to this paper has been encouraging. More efforts will be made to keep students intrigued.

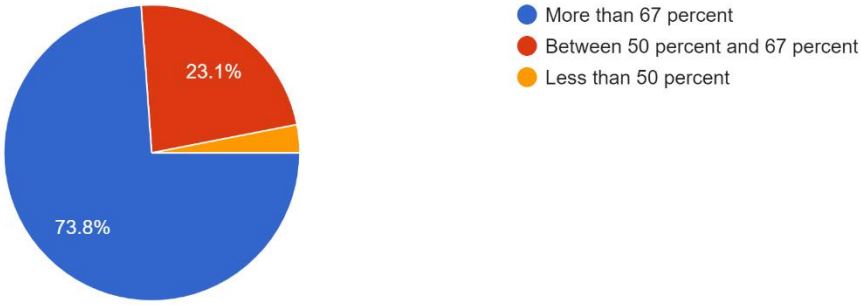
COURSE EXIT SURVEY: Analysis Report
Academic Session: 2021-22

Department: Mathematics **Program: B.Sc.(H) Mathematics**

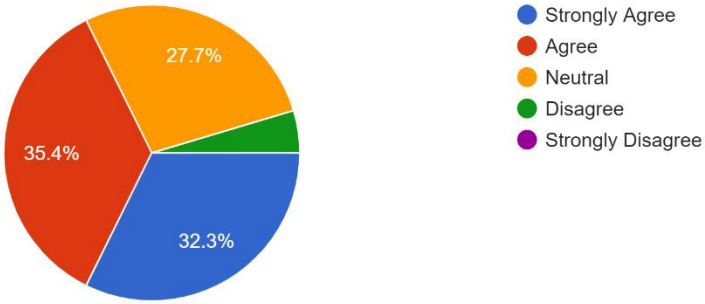
Semester: 3

Paper Name: BMATH305: Theory of Real Functions

Percentage of Classes Attended
65 responses

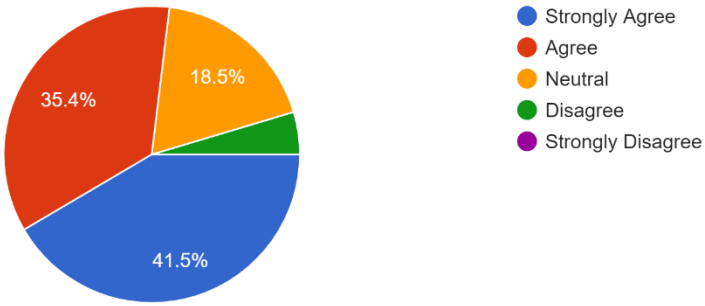


You got a rigorous understanding of the concept of limit of a function.
65 responses



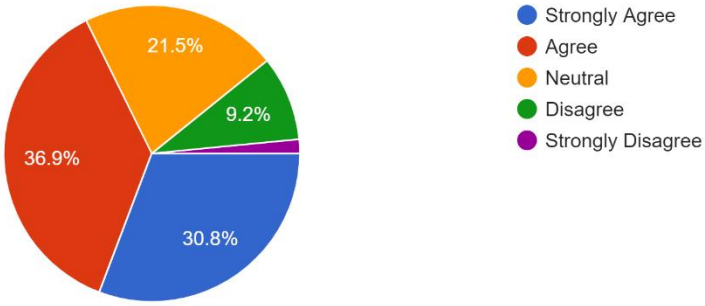
You have learned about continuity and uniform continuity of functions defined on intervals.

65 responses



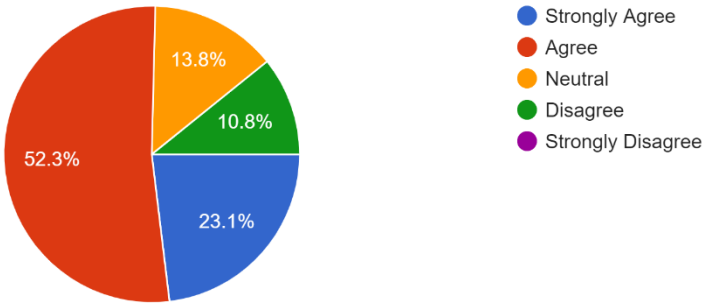
You understood geometrical properties of continuous functions on closed and bounded intervals.

65 responses



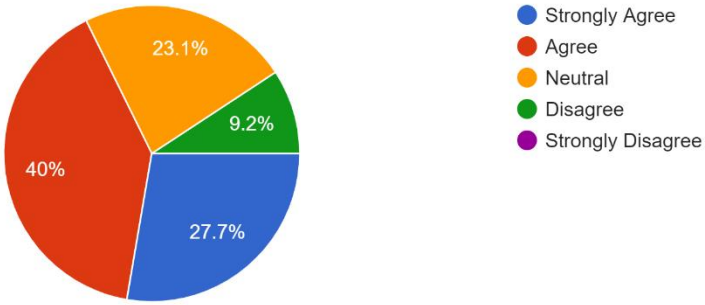
You were able to learn extensively about the concept of differentiability using limits, leading to a better understanding for applications.

65 responses



You got to know about applications of mean value theorems and Taylor's theorem.

65 responses



Observations:

From the given responses, it is observed that around 65-76% of students strongly agreed and agreed that they got a rigorous understanding of the concept of limit of a function. They learned about continuity and uniform continuity of functions defined on intervals and understood geometrical properties of continuous functions on closed and bounded intervals. Students were able to learn extensively about the concept of differentiability using limits, leading to a better understanding for applications also got to know about applications of mean value theorems and Taylor's theorem. It is also observed that students had an interest in the paper as 73.8% of students had more than 67% of attendance.

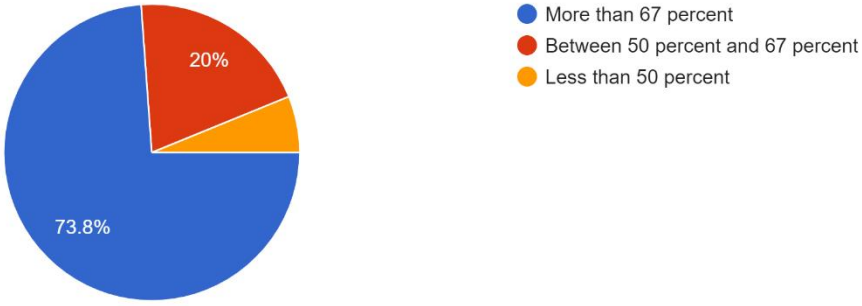
Action Taken:

For the moderate responses, topics will be discussed more with the students in tutorials. For the weak students, special classes will be held to discuss important questions with them. Measures will be taken to make the subject more engaging and appealing to the students in order to ensure higher attendance on their part. Assessments like quiz, presentations would also be done at regular intervals.

Paper Name: BMATH306: Group Theory-I

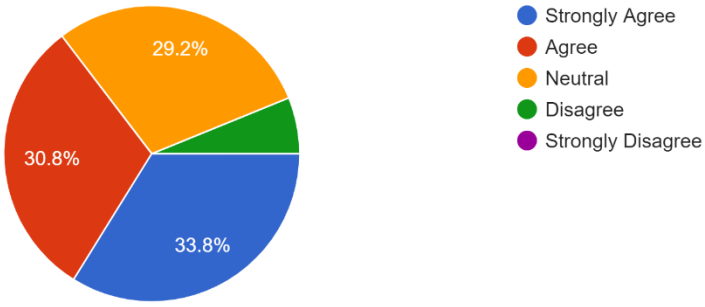
Percentage of Classes Attended

65 responses



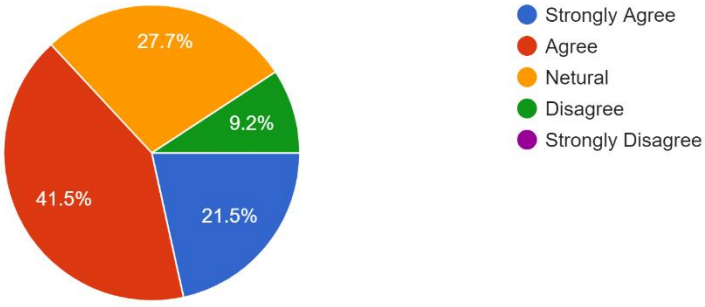
You were able to recognized the mathematical objects that are groups, and classify them as abelian, cyclic and permutation groups, etc.

65 responses



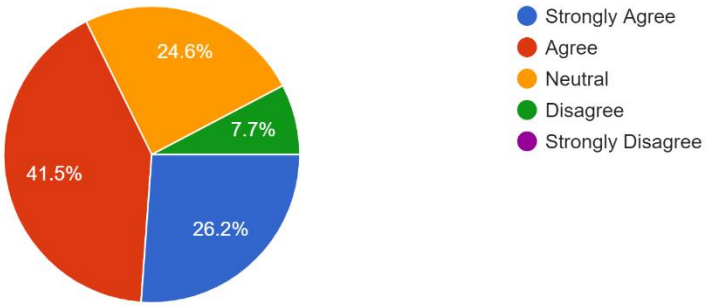
You were able to link the fundamental concepts of groups and symmetrical figures.

65 responses



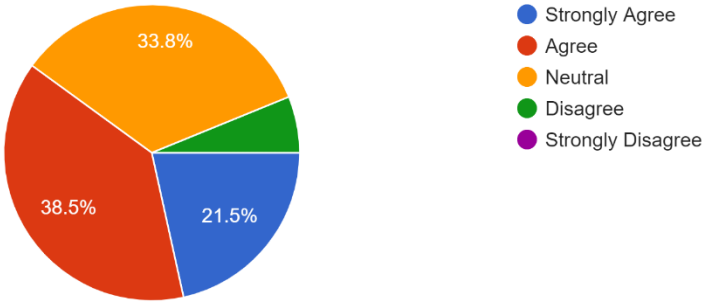
You were able to analyze the subgroups of cyclic groups and classify subgroups of cyclic groups.

65 responses



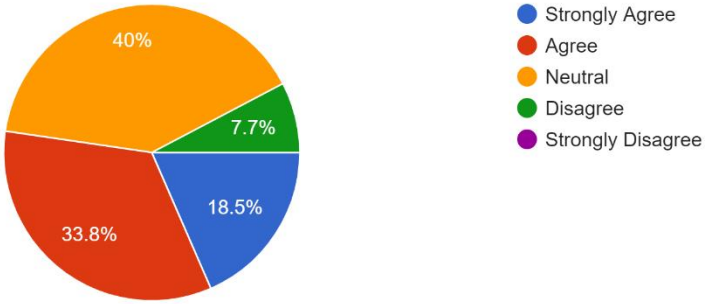
You were able to explain the significance of the notion of cosets, normal subgroups and factor groups.

65 responses



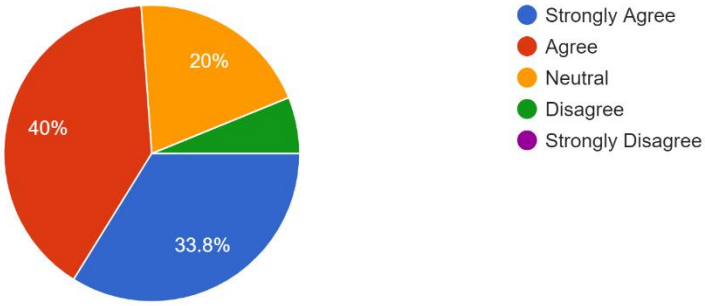
You got to know about Lagrange's theorem and Fermat's Little theorem.

65 responses



You got to know about group homomorphisms and group isomorphisms.

65 responses



Observations:

From the given responses, it is observed that a51-76% of students strongly agreed and agreed that they were able to recognized the mathematical objects that are groups, and classify them as abelian, cyclic and permutation groups and to link the fundamental concepts of groups and symmetrical figures. They were able to analyze the subgroups of cyclic groups and classify subgroups of cyclic groups also able to explain the significance of the notion of cosets, normal subgroups and factor groups. They got to know about Lagrange's theorem, Fermat's Little theorem, group homomorphisms and group isomorphisms. It is also observed that students had an interest in the paper as 73.8% of students had more than 67% of attendance.

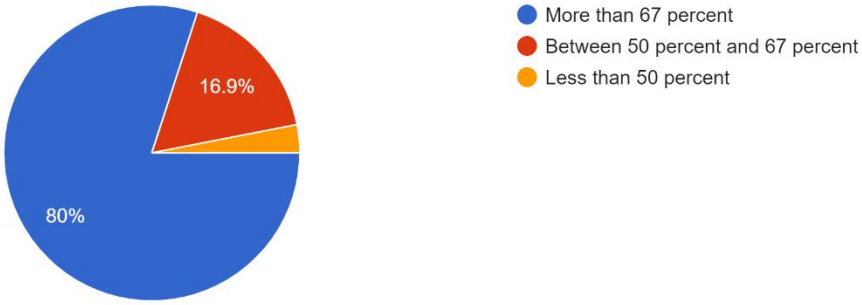
Action Taken:

For the moderate responses, topics will be discussed more with the students in tutorials. For the weak students, special classes will be held to discuss important questions with them. Measures will be taken to make the subject more engaging and appealing to the students in order to ensure higher attendance on their part. Assessments like quiz, presentations would also be done at regular intervals.

Paper Name: BMATH307: Multivariate Calculus

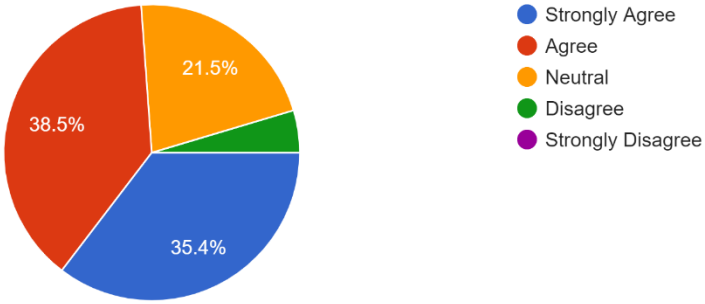
Percentage of Classes Attended

65 responses



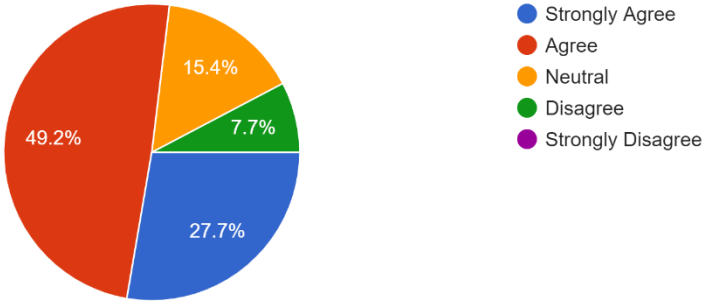
You were able to learn the conceptual variations when advancing in calculus from one variable to multivariable discussion.

65 responses



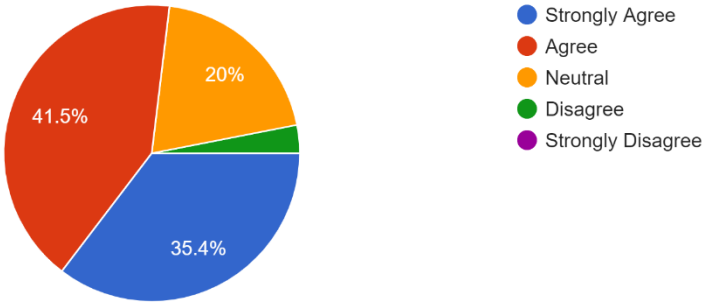
You were able to understand the maximization and minimization of multivariable functions subject to the given constraints on variables.

65 responses



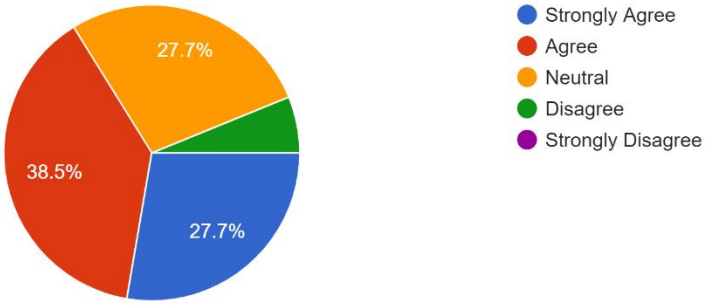
You were able to learn about inter-relationship amongst the line integral, double and triple integral formulations.

65 responses



You were able to familiarize with Green's, Stokes' and Gauss divergence theorems.

65 responses



Observations:

From the given responses, it is observed that around 66-76 % of students strongly agreed and agreed that they were able to learn the conceptual variations when advancing in calculus from one variable to multivariable discussion. They were able to understand the maximization and minimization of multivariable functions subject to the given constraints on variables and about inter-relationship amongst the line integral, double and triple integral formulations. Students were familiarize with Green's, Stokes' and Gauss divergence theorems. It is also observed that students had an interest in the paper as 80 % of students had more than 67% of attendance.

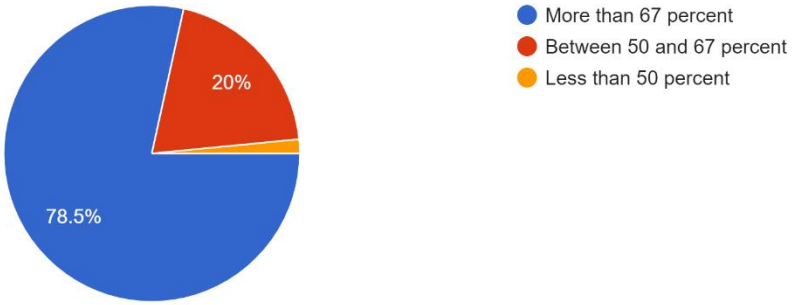
Action Taken:

For the moderate responses, topics will be discussed more with the students. For the weak students, special classes will be held to discuss important questions with them. Measures will be taken to make the subject more engaging and appealing to the students in order to ensure higher attendance on their part. Assessments like quiz, presentations would also be done at regular intervals.

Paper Name: SEC-1: LaTeX and HTML

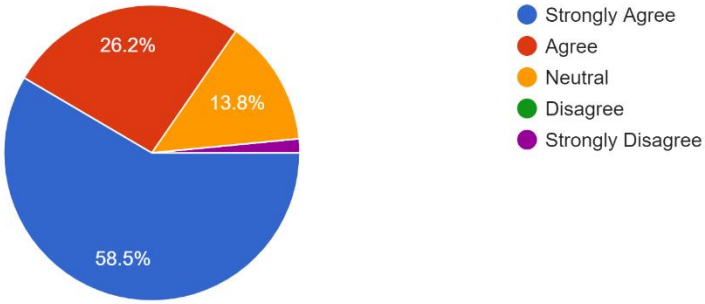
Percentage of Classes Attended

65 responses



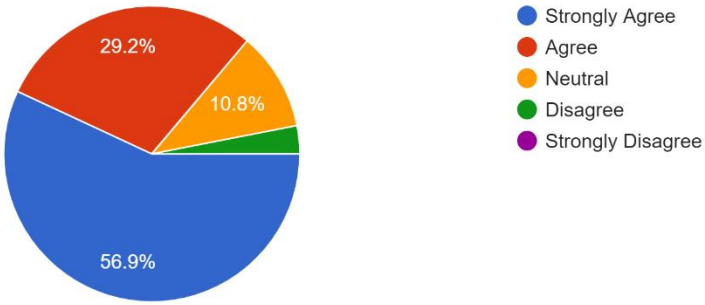
You were able to create and typeset a LaTeX document.

65 responses



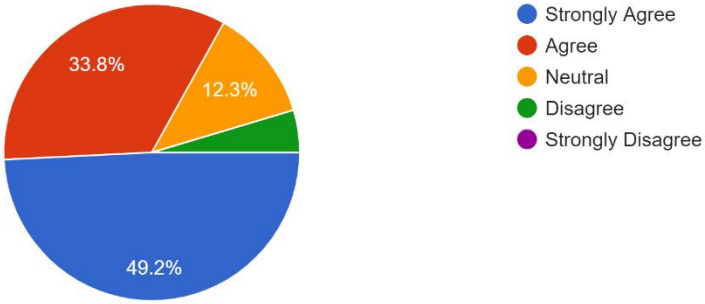
You were able to typeset a mathematical document using LaTex

65 responses



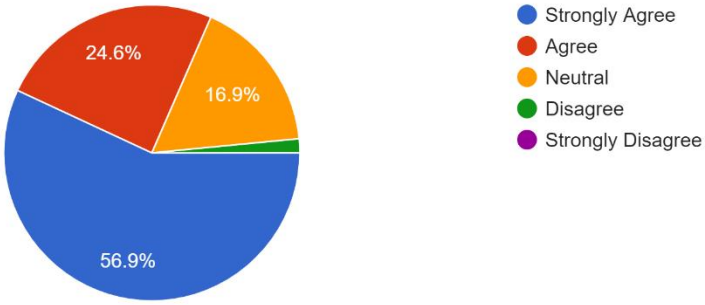
You were able to learn about pictures and graphics in LaTex.

65 responses



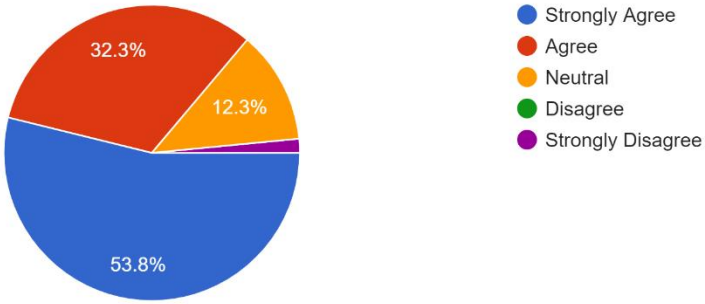
You were able to create beamer presentations.

65 responses



You were able to create web page using HTML

65 responses



Observations:

From the given responses, it is observed that around 81-86% of students strongly agreed and agreed and that they were able to create, typeset a LaTeX document. They were able to typeset a mathematical document using LaTex and to learn about pictures and graphics in LaTex. They were also able to create beamer presentations and web page using HTML. It is also observed that students had an interest in the paper as 78.5% of students had more than 67% of attendance.

Action Taken:

The response to this paper has been encouraging. More efforts will be made to keep students intrigued.

COURSE EXIT SURVEY: Analysis Report
Academic Session: 2021-22

Department: Mathematics **Program: B.Sc.(H) Mathematics**

Semester: 1

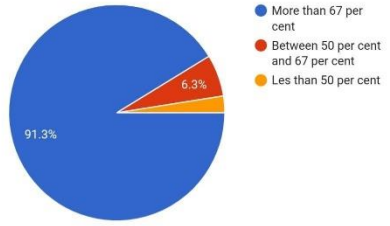
Paper Name: BMATH101:Calculus

BMATH101: Calculus

Percentage of classes attended

Copy

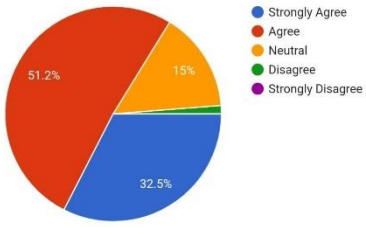
80 responses

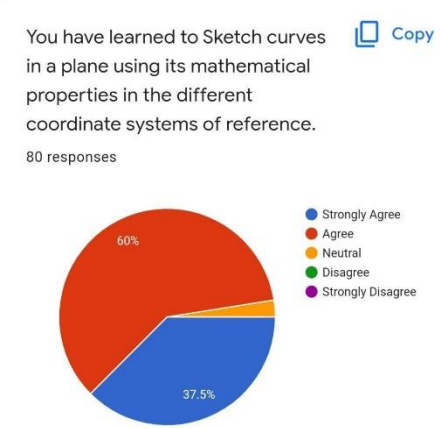


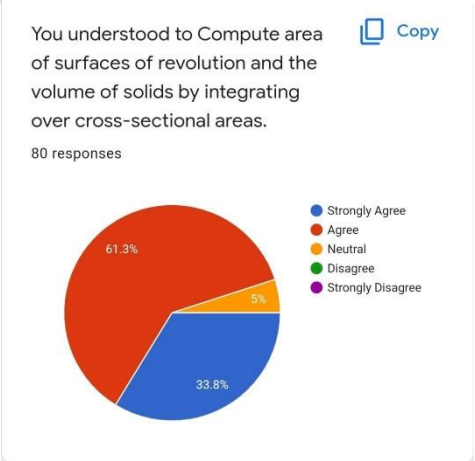
You have learned to first and second derivative tests for relative extrema and apply the knowledge in problems in business, economics and life sciences

Copy

80 responses







Observations: From the given responses, it is observed that around 83 % of students strongly agreed or agreed that they have learned first and second derivative tests for relative extrema and were able apply the knowledge in problems in business, economics and life sciences, 97.5 % are able to sketch curves in a plane using its mathematical properties in the different coordinate systems of reference, 95 % are able to compute area of surfaces of revolution and the volume of solids by integrating over cross-sectional areas and 91% are able to understand the calculus of vector functions and its use to develop the basic principles of planetary motion. It is also observed that students had an interest in the paper as 91.3% of students had more than 67% of attendance.

Action Taken:

For the moderate responses, topics will be discussed more with the students in tutorials. For the weak students, special classes will be held to discuss important questions with them. Measures will be taken to make the subject more engaging and appealing to the students in order to ensure higher attendance on their part. Assessments like quiz, presentations would also be done at regular intervals.

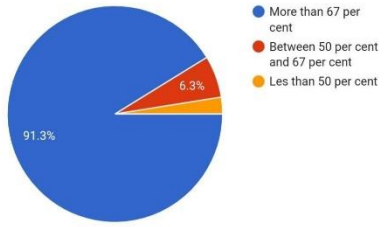
Paper Name: BMATH102:Algebra

BMATH102: Algebra

Percentage of classes attended

Copy

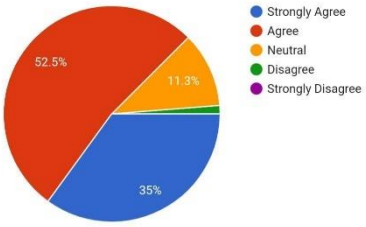
80 responses



You have learned to Employ De Moivre's theorem in a number of applications to solve numerical problems.

Copy

80 responses



You have learned about equivalent classes and cardinality of a set.

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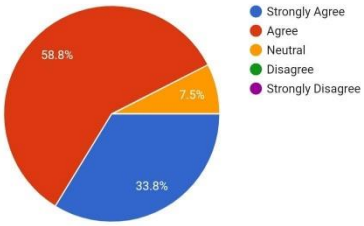
80 responses



You understood the Use modular arithmetic and basic properties of congruences.

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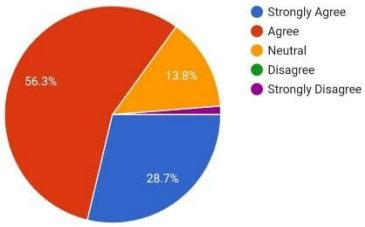
80 responses



You have learned to Recognize consistent and inconsistent systems of linear equations by the row echelon form of the augmented matrix.

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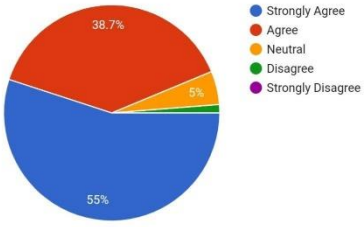
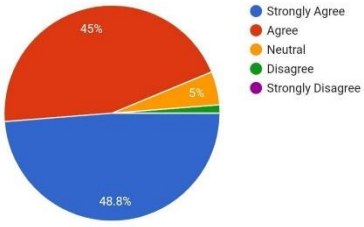
80 responses



You have learned to Find eigenvalues and corresponding eigenvectors for a square matrix.

Copy

80 responses



Observations: From the given responses, it is observed that around 87.5-93.7% of students strongly agreed or agreed that they have learned the basics of algebra and have learned to Employ De Moivre's theorem in a number of applications to solve numerical problems, equivalent classes and cardinality of a set, Use modular arithmetic and basic properties of congruences, learned to Recognize consistent and inconsistent systems of linear equations by the row echelon form of the augmented matrix, to find eigenvalues and corresponding eigenvectors for a square matrix. It is also observed that students had an interest in the paper as 91.3 % of students had more than 67% of attendance.

Action Taken:

For the moderate responses, topics will be discussed more with the students in tutorials. For the weak students, special classes will be held to discuss important questions with them. Measures will be taken to make the subject more engaging and appealing to the students in order to ensure higher attendance on their part. Assessments like quiz, presentations would also be done at regular intervals.

COURSE EXIT SURVEY: Analysis Report
Academic Session: 2021-22

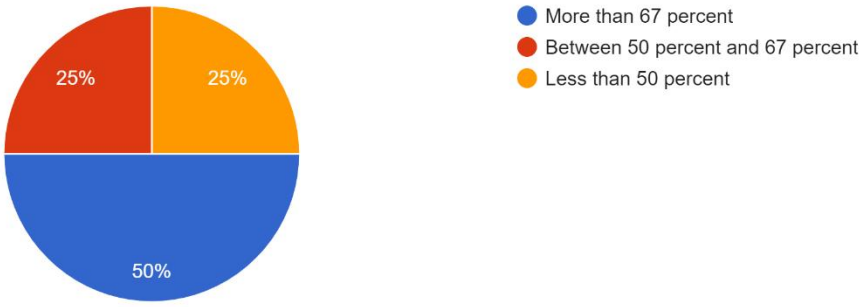
Department: Mathematics

Semester: 6

Paper Name: GE-2: General Mathematics – II

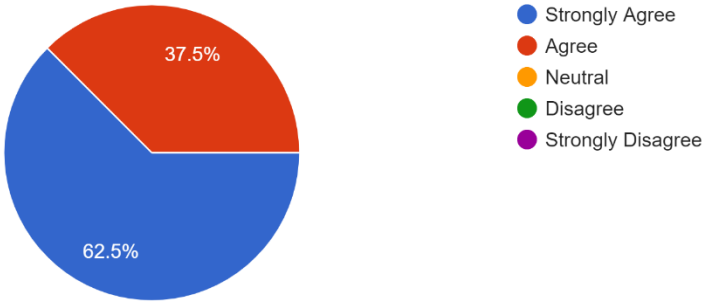
Percentage of Classes Attended

8 responses



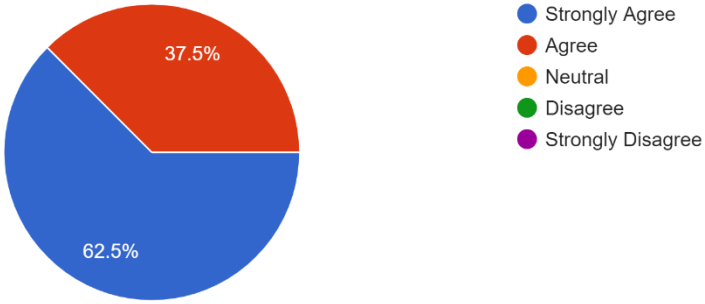
You got to learn about the contributions of remarkable mathematicians in the field of algebra, analysis, number theory, calculus, analytic geometry, differential equations and mechanics. .

8 responses



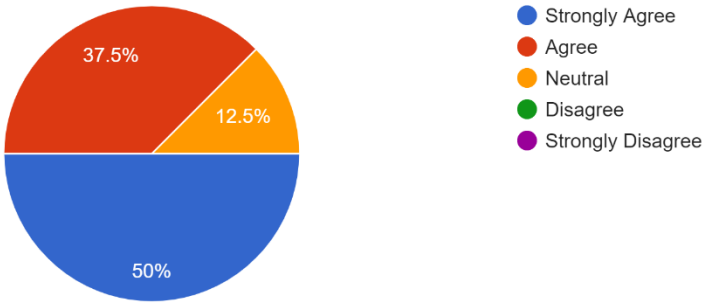
You understood basics of graph theory, functions and their graphs, perspective geometry and its uses in art, fractals and Fibonacci sequences with applications.

8 responses



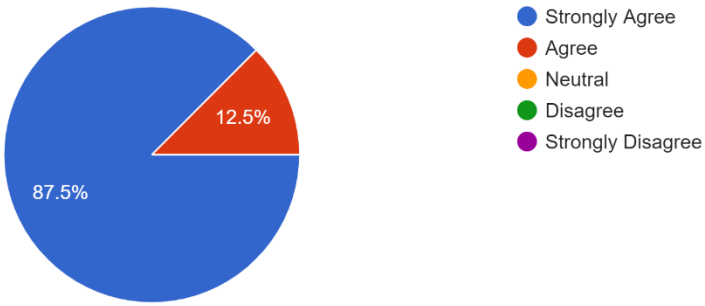
You were able to learn about types of symmetry and patterns by looking at monuments/buildings/ornamental art.

8 responses



You were able to solve systems of linear equations using Gauss elimination and Gauss–Jordon methods, and rank of matrices.

8 responses



Observations:

From the given responses, it is observed that around 100% of students strongly agreed and agreed that they got to learn about the contributions of remarkable mathematicians in the field of algebra, analysis, number theory, calculus, analytic geometry, differential equations and mechanics and understood basics of graph theory, functions and their graphs, perspective geometry and its uses in art, fractals and Fibonacci sequences with applications. They were able to learn about types of symmetry and patterns by looking at monuments/buildings/ornamental art and solve systems of linear equations using Gauss elimination and Gauss−Jordon methods, and rank of matrices. It is also observed that 50% students had more than 67% of attendance.

Action Taken

The response to this paper has been encouraging. More efforts will be made to keep students intrigued.

COURSE EXIT SURVEY: Analysis Report
Academic Session: 2021-22

Department: Mathematics

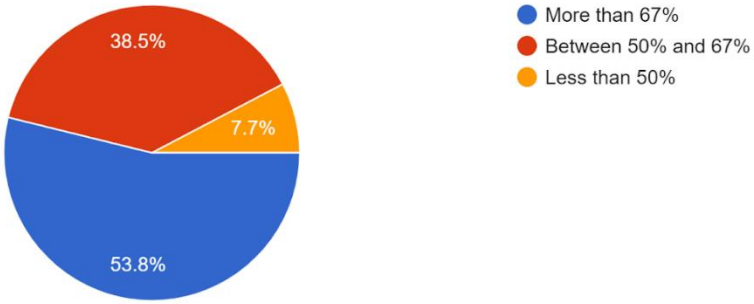
Program: B.A. Programme III Year

Semester: 6

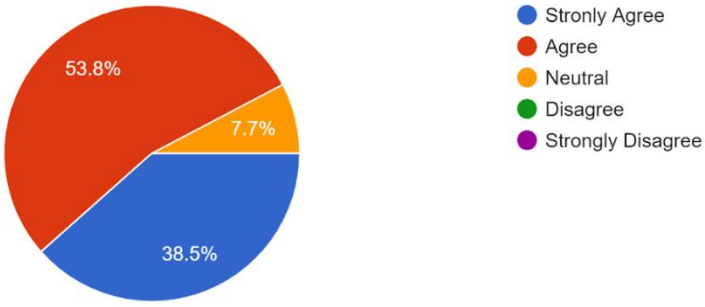
Paper Name: Sec-4: Statistical Software-R

UPC: 62353607

Percentage of Classes Attended for this Course
13 responses

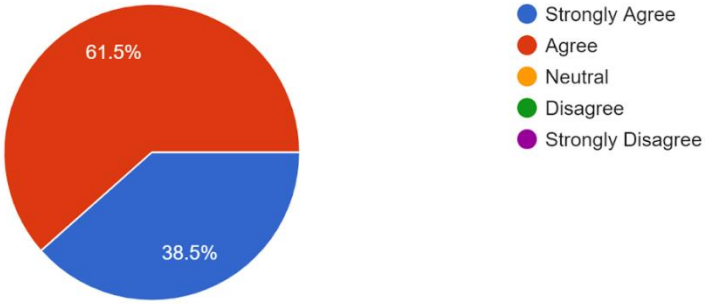


You are able to use R as a calculator.
13 responses



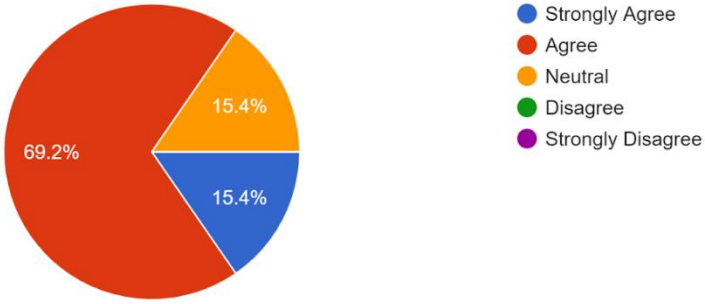
You have understood the concept of data structures like vectors, lists, data frames and matrices.

13 responses



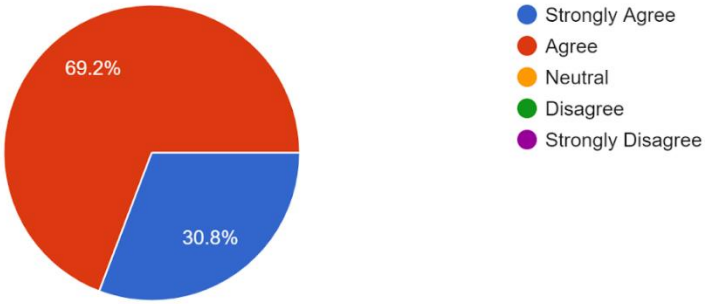
You are able to visualize the distribution of data in R and have learned about normality test.

13 responses



You are able to plot various graphs and charts using R.

13 responses



Observations:

From the given responses, it is observed that more than 90% of students strongly agreed and agreed that they can use R as a calculator and have well understood the concept of data structures like vectors, lists, data frames and matrices. Also, they are able to plot various graphs and charts using R. It is also observed that students had keen interest in the paper as more than 90% of students had more than 50% of attendance.

Actions Taken

The response to this paper has been encouraging. More efforts will be made to keep students intrigued. For the moderate responses, topics will be discussed more with the students in tutorials. For weak students, special classes will be held to discuss important questions with them. Assessments like quiz, presentations will also be done at regular intervals.

COURSE EXIT SURVEY: Analysis Report
Academic Session: 2021-22

Department: Mathematics

Program: B.A. Programme III Year

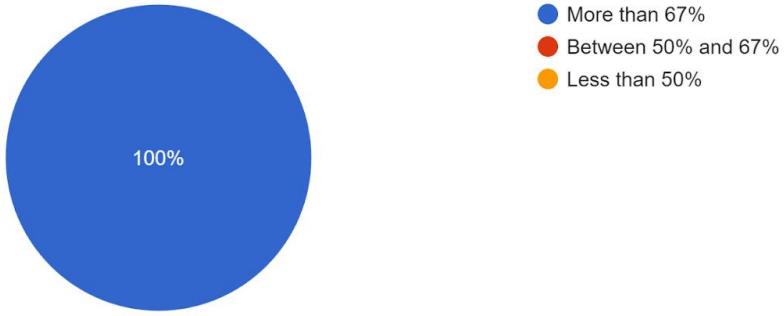
Semester: 5

Paper Name: Statistics

UPC: 62357503

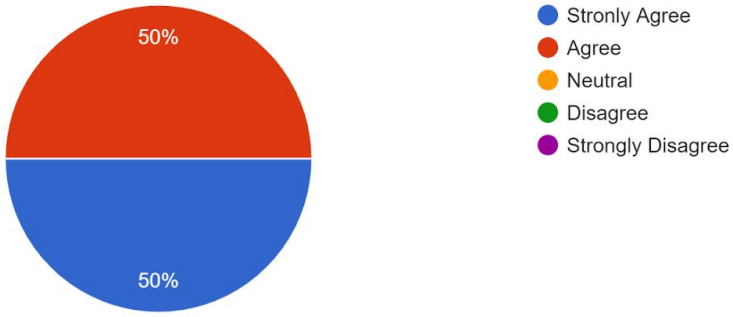
Percentage of Classes Attended for this Course

6 responses



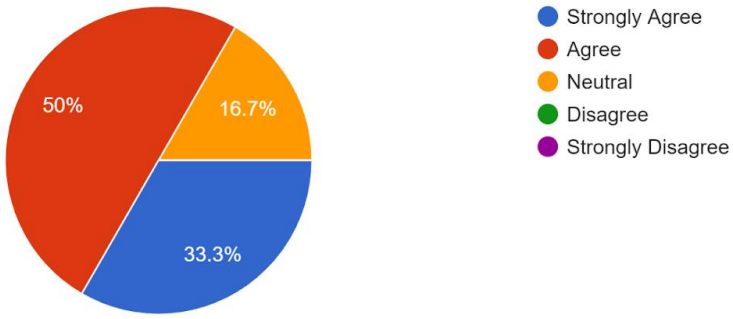
You are able to determine moments and distribution function using mgf.

6 responses



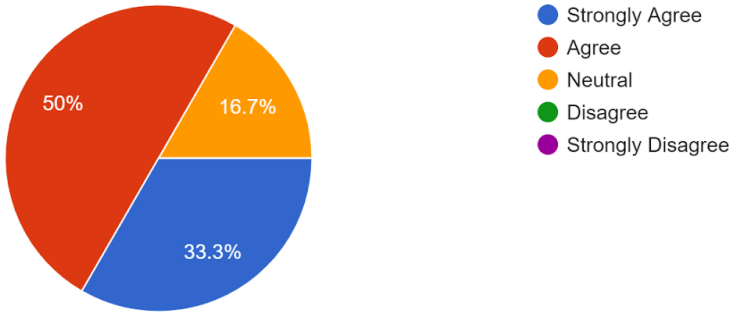
You have learned about various discrete and continuous probability distributions

6 responses



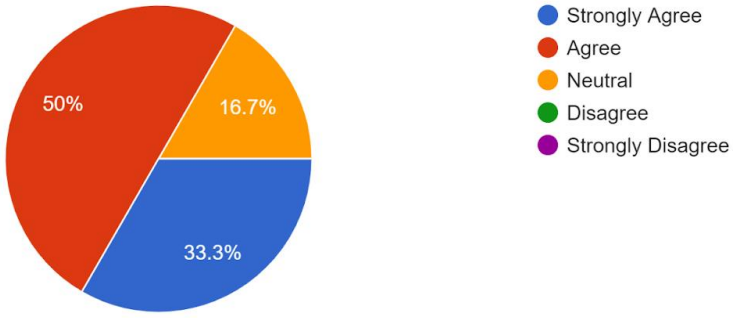
You know about correlation, regression for two variables, weak law of large numbers and central limit theorem.

6 responses



You have learned about the Chi-square distribution, F and t-tests, and sampling distribution.

6 responses



Observations:

From the given responses, it is observed that more than 80% of students strongly agreed and agreed that they have learned about discrete and continuous distribution functions, correlation, regression, weak law of large numbers, central limit theorems. Also, they have well understood about chi-square distribution, F and t-tests and sampling distribution. It is also observed that students had keen interest in the paper as 100% of students had more than 67% of attendance.

Actions Taken

The response to this paper has been encouraging. More efforts will be made to keep students intrigued. For the moderate responses, topics will be discussed more with the students in tutorials. For weak students, special classes will be held to discuss important questions with them. Assessments like quiz, presentations would also be done at regular intervals.

COURSE EXIT SURVEY: Analysis Report
Academic Session: 2021-22

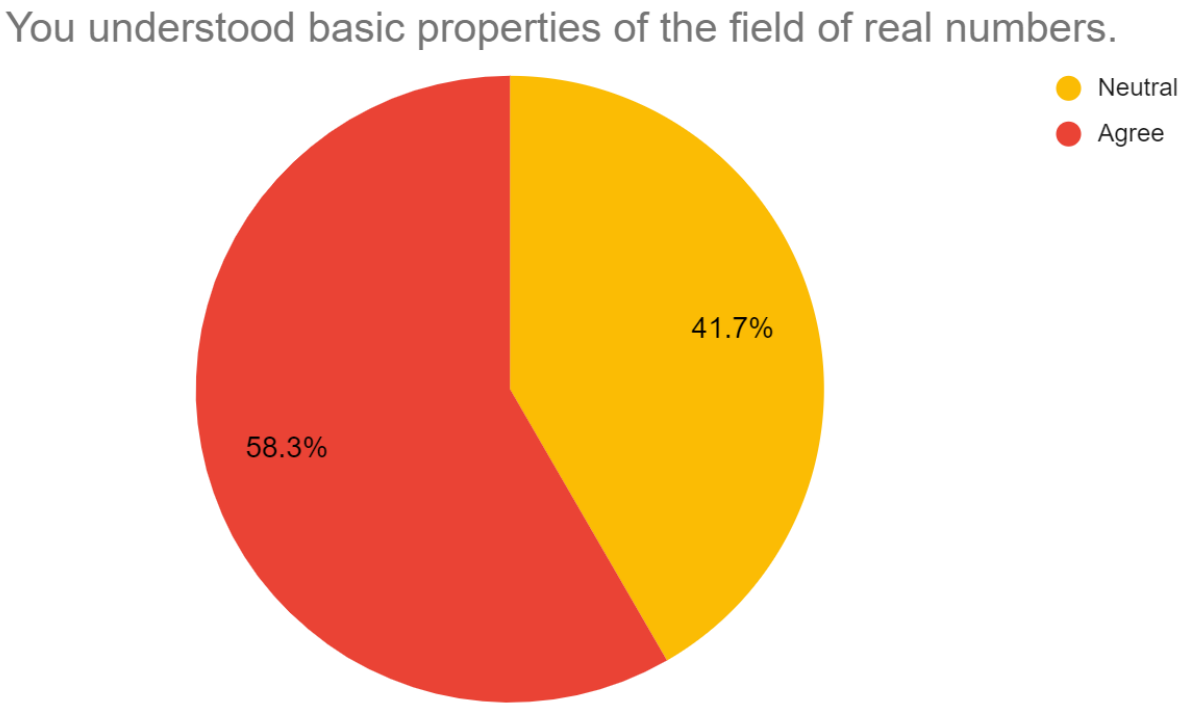
Department: Mathematics

Program: B.A. Prog

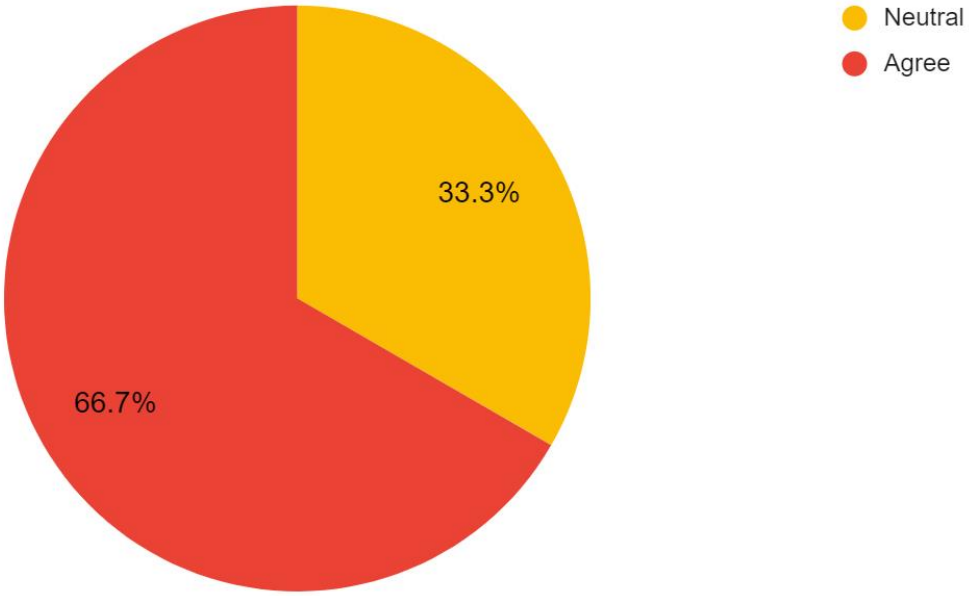
Semester: 4

Paper Name: Analysis (UPC- 62354443)

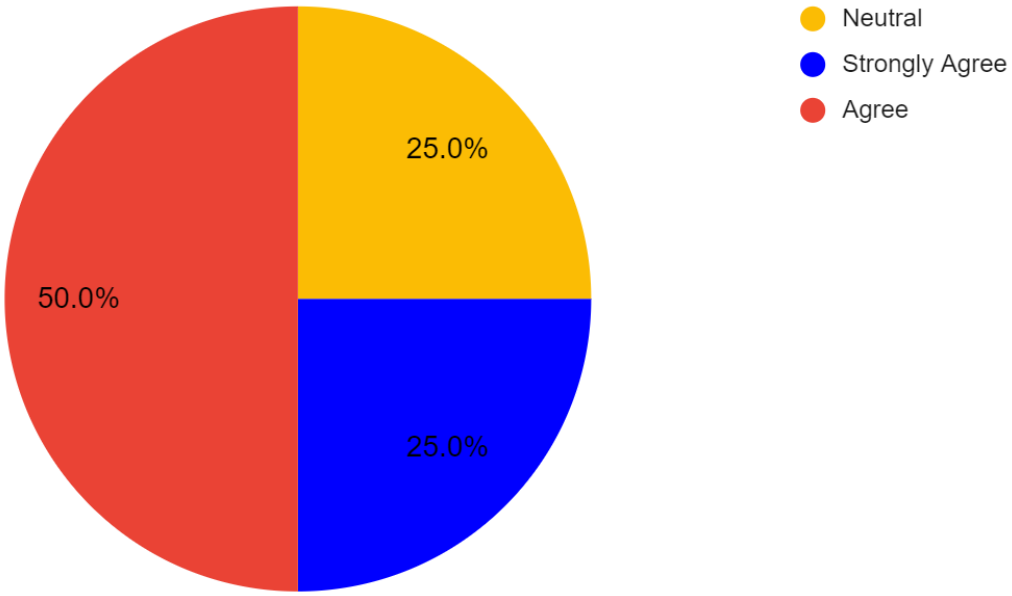
*12 responses



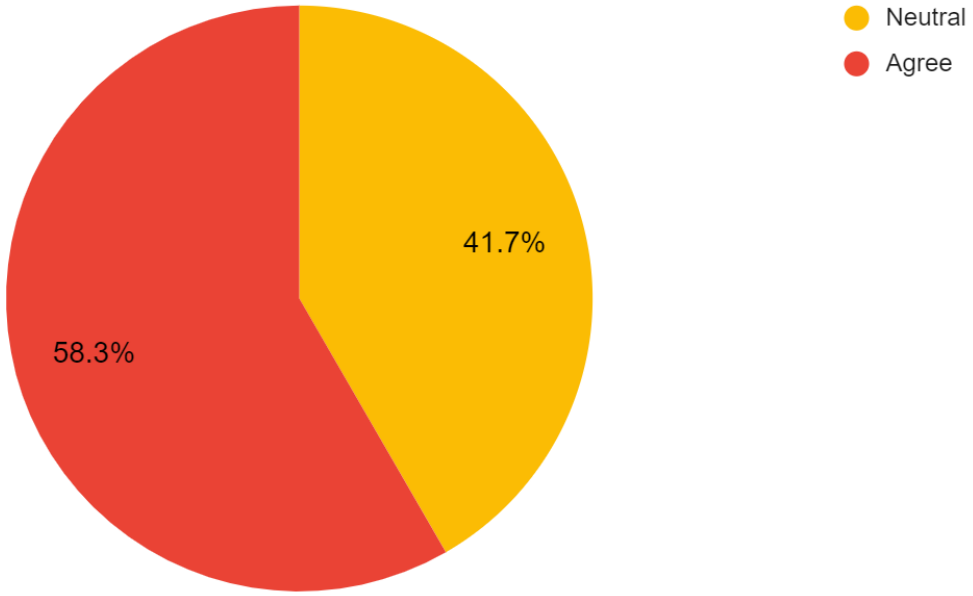
You were able to examine continuity and uniform continuity of functions using sequential criterion.



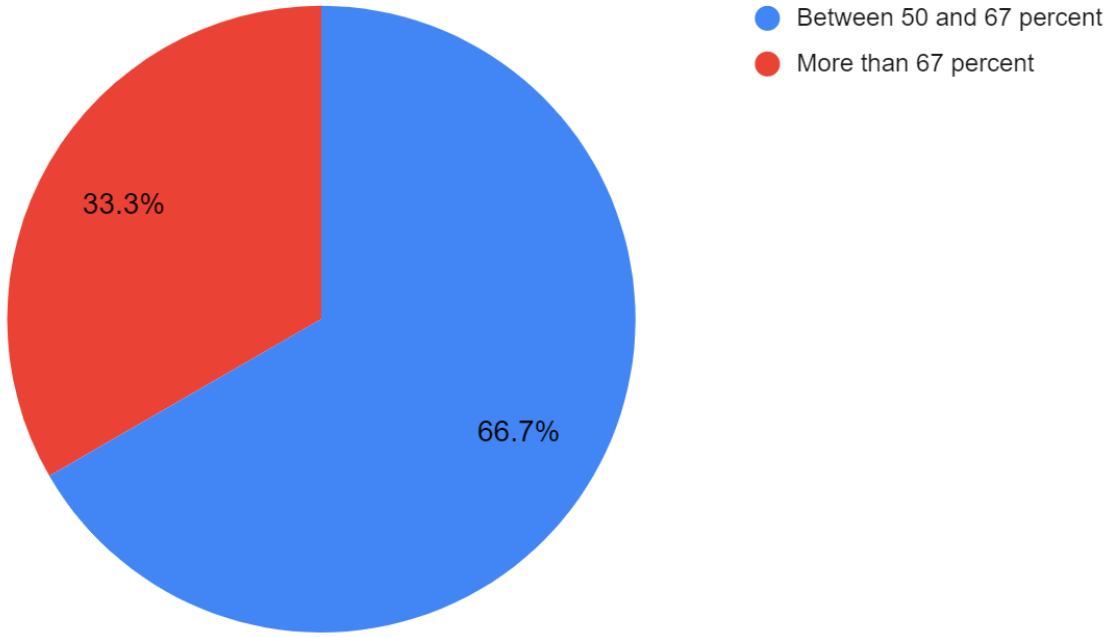
You were able to test convergence of sequence and series of real numbers.



You were able to distinguish between the notion of integral as anti-derivative and Riemann integral.



Percentage of classes attended in this course



Observations: From the given responses, it is observed that around 58-75 % of students strongly agreed or agreed that they understood basic properties of the field of real numbers and were able to test convergence of sequence and series of real numbers. They were able to examine continuity and uniform continuity of functions using sequential criterion and were also able to distinguish between the notion of integral as anti-derivative and Riemann integral. It is also observed that students need to be motivated to attend the course as 33.3% students had more than 67% of attendance.

Action Taken: For the moderate responses, topics will be discussed more with the students in tutorials. For the weak students, special classes will be held to discuss important questions with tutorials. Measures will be taken to make the subject more interesting to the students in order to ensure higher attendance on their part. Assessments would also be done at regular intervals.

COURSE EXIT SURVEY: Analysis Report
Academic Session: 2021-22

Department: Mathematics

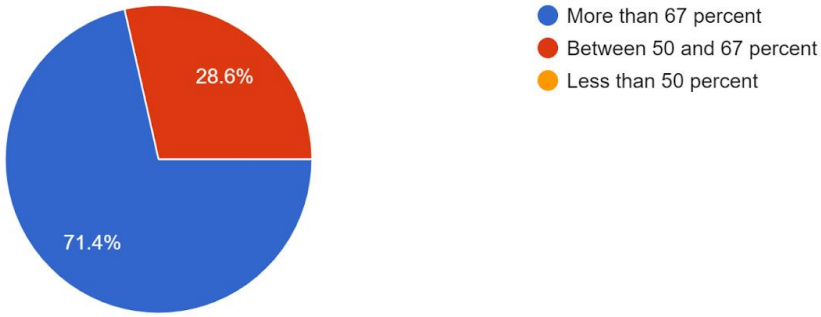
Program: B.A. Prog

Semester: 6

Paper Name: Numerical Methods

Percentage of classes attended in this course

7 responses



You understood the concept of iterative methods like Bisection method, Regula-False method, Secant method, Newton Raphson method

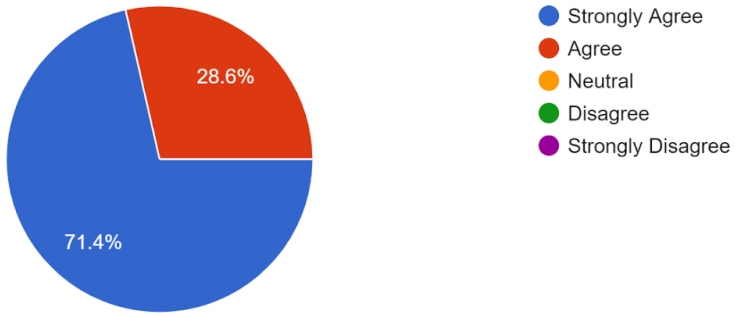
7 responses

You have learned about Gauss elimination method, Gauss Jordan method, Lagrange method, Newton divided difference method

7 responses

You were able to understand an overview of numerical differentiation and numerical integration, Euler's method

7 responses



Observations: From the given responses, it is observed that around 100 % of students strongly agreed that they were able to learn the concept of iterative methods like Bisection method, Regula-False method, Secant method, Newton Raphson method, Gauss elimination method, Gauss Jordan method, Lagrange method, Newton divided difference method,

It is also observed that around 100 % of students strongly agreed or agreed that they were able to learn the concept of numerical differentiation and numerical integration, Euler's method

It is also observed that students need to be motivated to attend the course as 71.45% students had more than 67% of attendance.

Action Taken: Measures will be taken to make the subject more interesting to the students in order to ensure higher attendance on their part. Assessments would also be done at regular intervals.

COURSE EXIT SURVEY: Analysis Report
Academic Session: 2021-22

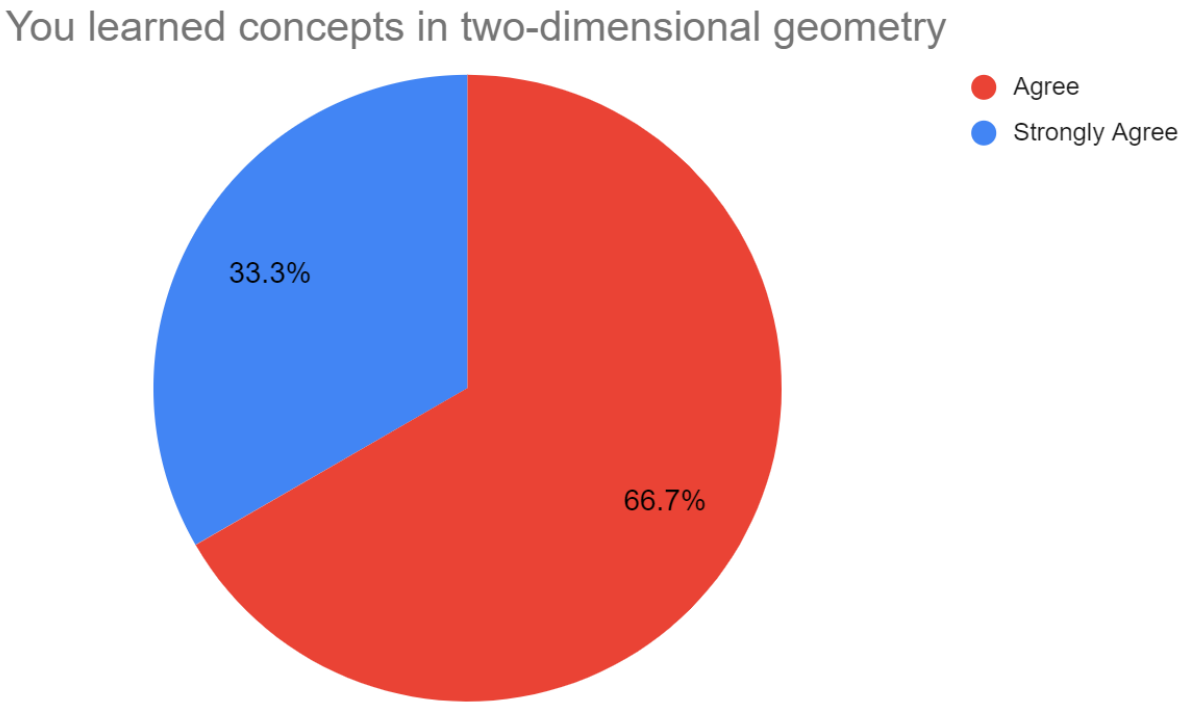
Department: Mathematics

Program: B.A. Prog

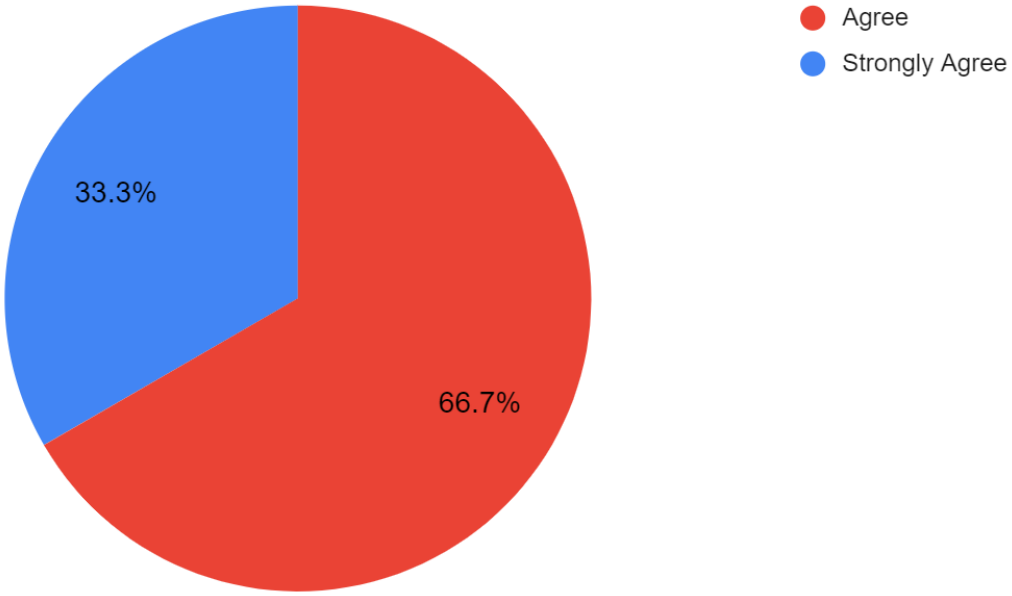
Semester: 3

Paper Name: Analytic Geometry and Applied Algebra

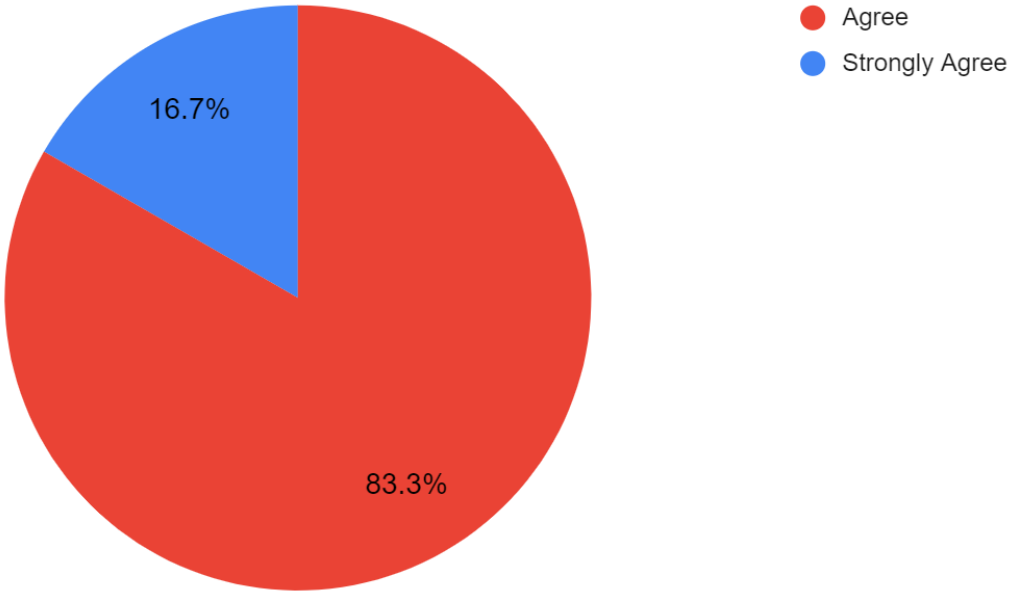
*6 responses



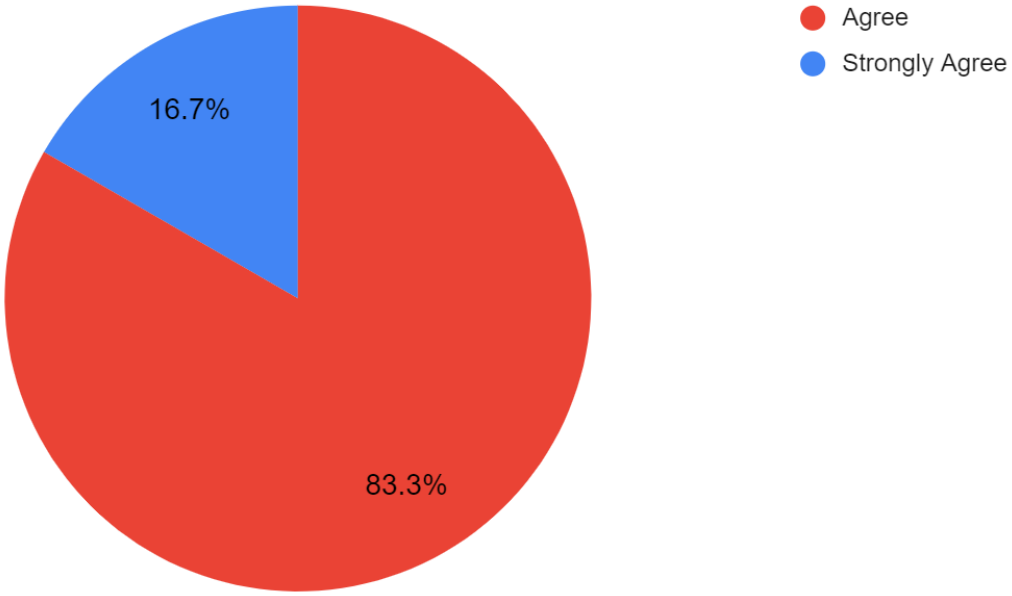
You were able to identify and sketch conics namely, ellipse, parabola and hyperbola.



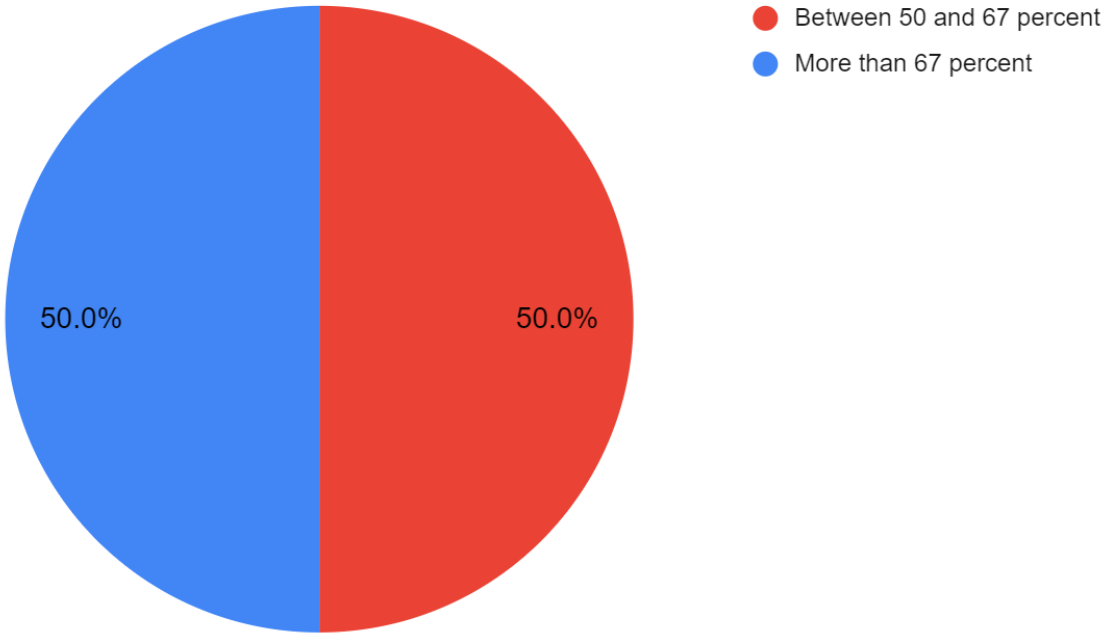
You learned about three-dimensional objects such as spheres, conicoids, straight lines and planes using vectors.



You understood various applications of algebra in design of experiments, modelling of matching jobs, checking spellings,…



Percentage of classes attended in this course



Observations: From the given responses, it is observed that around 100 % of students strongly agreed or agreed that they were able to learn concepts in two-dimensional geometry and identify and sketch conics namely, ellipse, parabola and hyperbola. They learned about three-dimensional objects such as spheres, conicoids, straight lines and planes using vectors. Students also understood various applications of algebra in design of experiments, modelling of matching jobs, checking spellings, network reliability and scheduling of meetings. It is also observed that students need to be motivated to attend the course as 50% students had more than 67% of attendance.

Action Taken: Measures will be taken to make the subject more interesting to the students in order to ensure higher attendance on their part. Assessments would also be done at regular intervals.

COURSE EXIT SURVEY: Analysis Report
Academic Session: 2021-22

Department: Mathematics

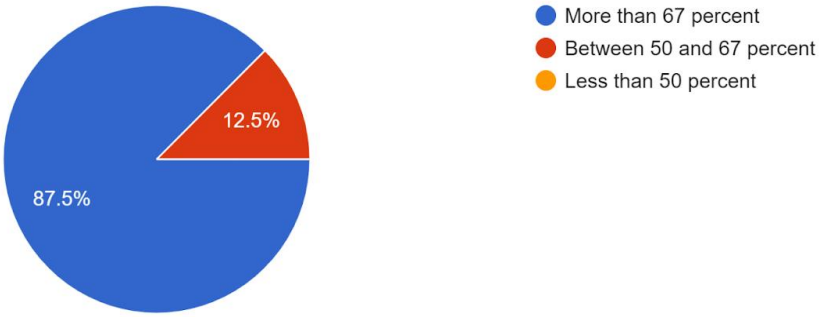
Program: B.A. Prog

Semester: 1

Paper Name: Calculus

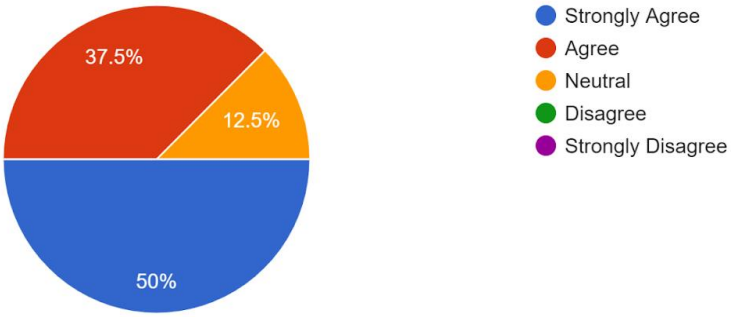
Percentage of classes attended in this course

8 responses



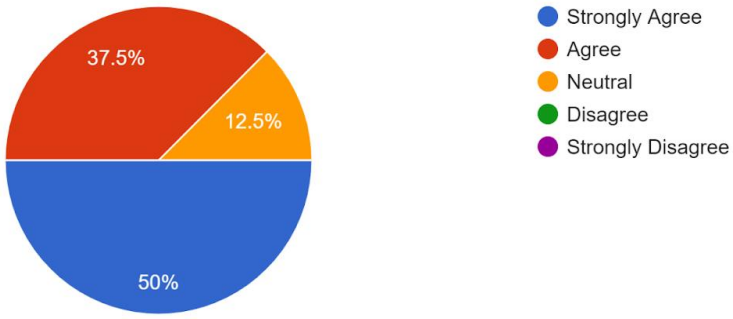
You understood the concept of continuity and differentiability of functions

8 responses



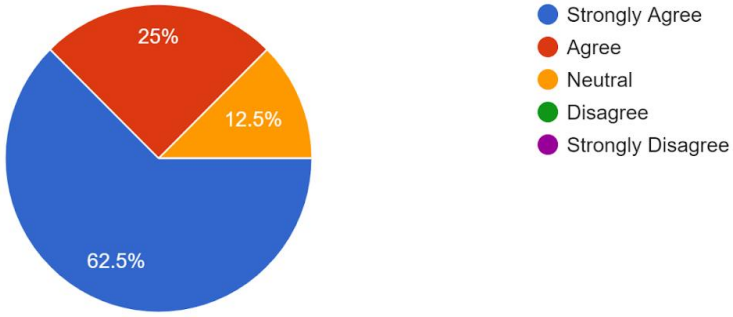
You have learned about tracing of curves

8 responses



You were able to understand an overview of Mean Value Theorems and its applications

8 responses



Observations: From the given responses, it is observed that around 87 % of students strongly agreed or agreed that they were able to learn the concept of continuity and differentiability of functions, tracing of curves, Mean Value Theorems and its applications.

It is also observed that students need to be motivated to attend the course as 87.5% students had more than 67% of attendance.

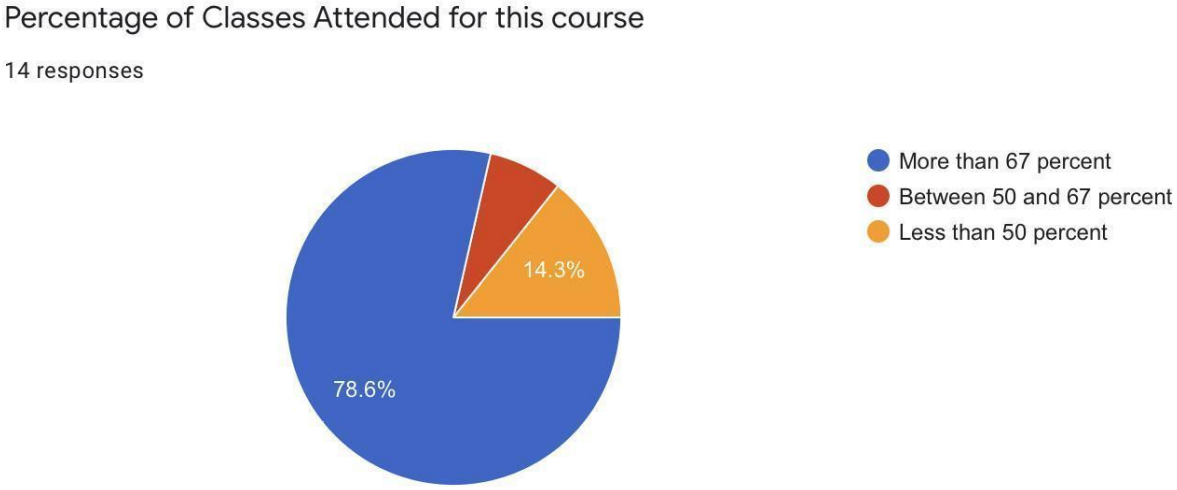
Action Taken: Measures will be taken to make the subject more interesting to the students in order to ensure higher attendance on their part. Assessments would also be done at regular intervals.

COURSE EXIT SURVEY: Analysis Report
Academic Session: 2021-22

Department: Mathematics **Program: B.A.(H) & B.Com**

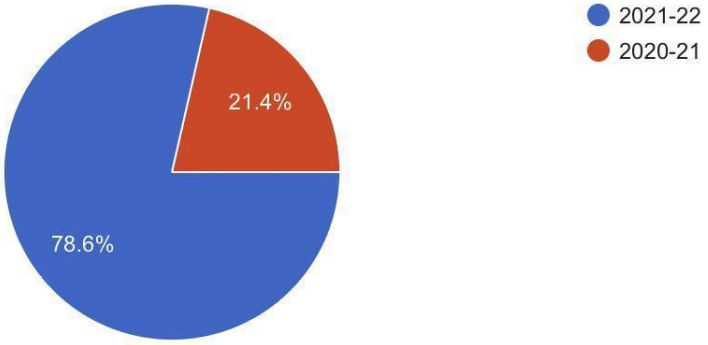
Semester: 4

Paper Name: Elements of Analysis



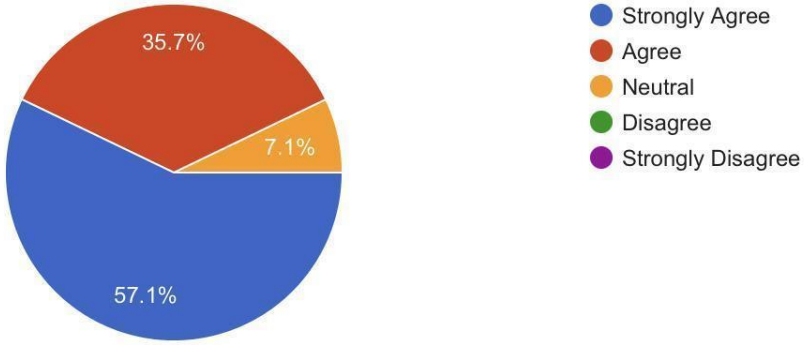
Year in which you studied this course

14 responses



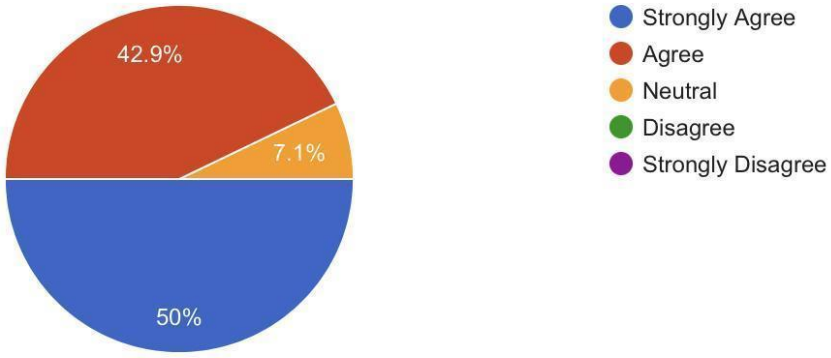
You were able to learn real numbers and their basic properties

14 responses



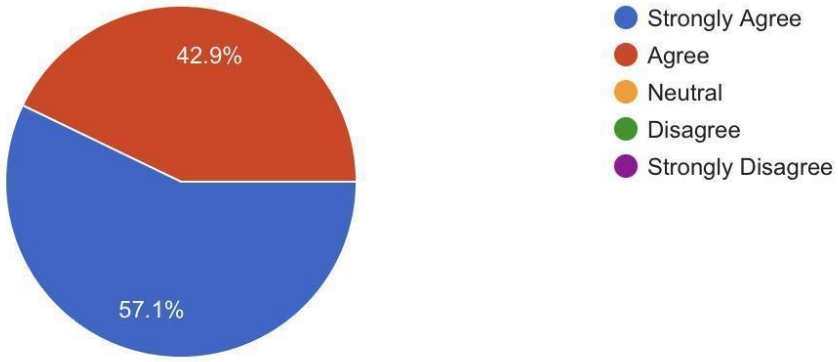
You were able to be familiar with convergent and Cauchy sequences.

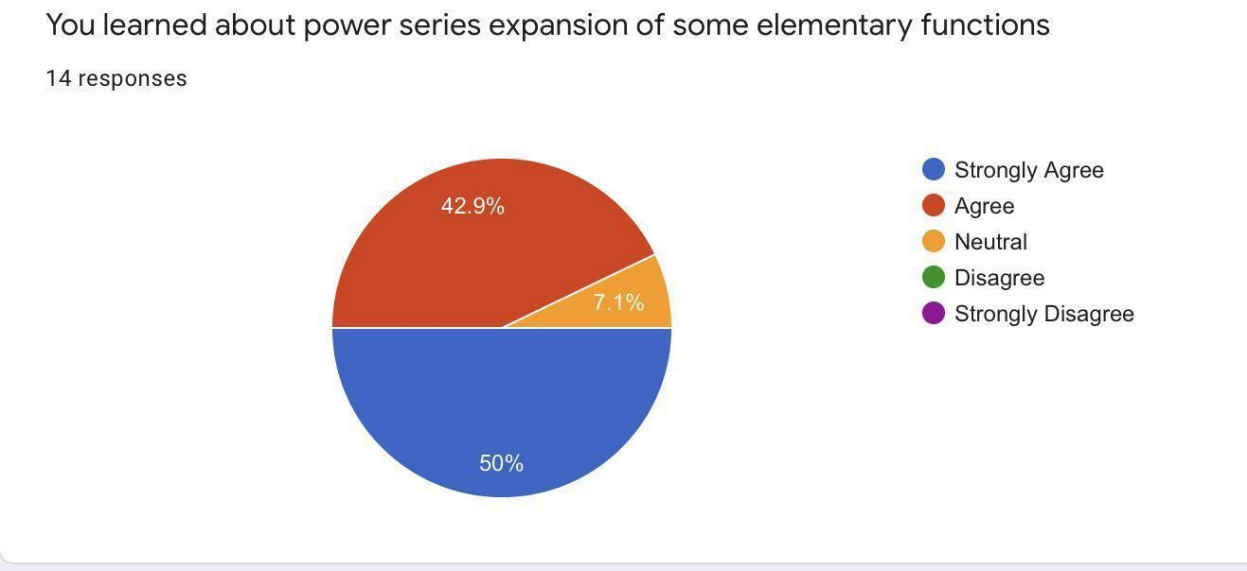
14 responses



You learned about the test of convergence and divergence of infinite series of real numbers

14 responses





Observations:

From the given responses, it is observed that around 93 % of students strongly agreed and agreed that they are able to learn real numbers and their basic properties as well as learn convergence of Cauchy sequences. They have understood the concept of test of convergence and divergence of infinite series of real numbers and power series expansion of elementary functions.

Action Taken:

For the moderate responses, topics will be discussed more with the students in tutorials. For the weak students, special classes will be held to discuss important questions with them. Measures will be taken to make the subject more engaging and appealing to the students in order to ensure higher attendance on their part. Assessments like quiz, presentations would also be done at regular intervals.