COURSE EXIT SURVEY: Analysis Report
Academic Session: 2022-23

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

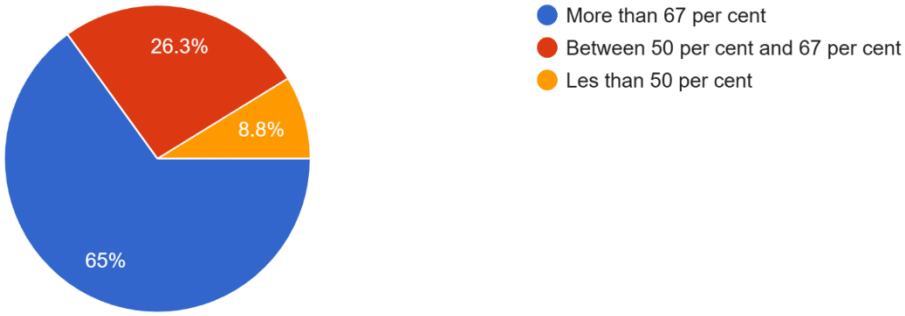
Semester: 1

Paper Name: Discipline Specific Core Course – 1: Algebra

UPC: 2352011101

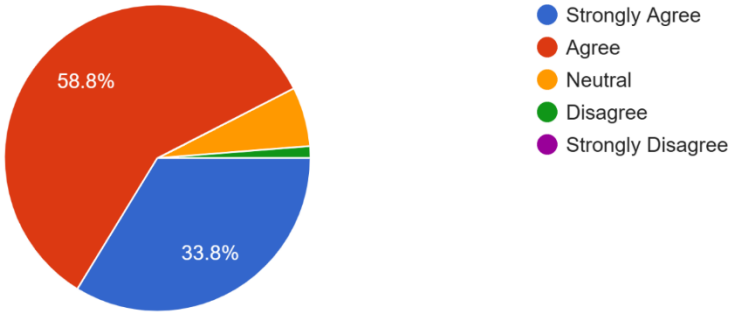
Percentage of classes attended

80 responses



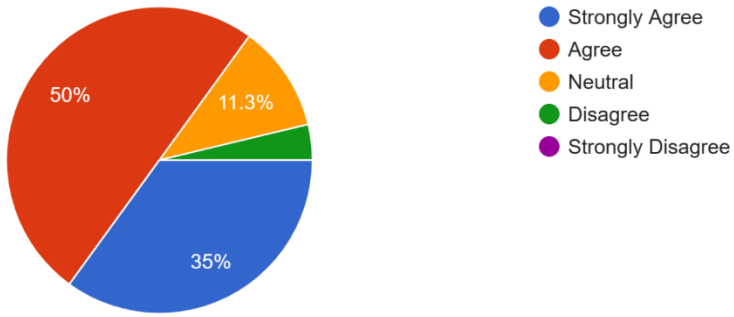
You have learned to determine number of positive/negative real roots of a real polynomial.

80 responses



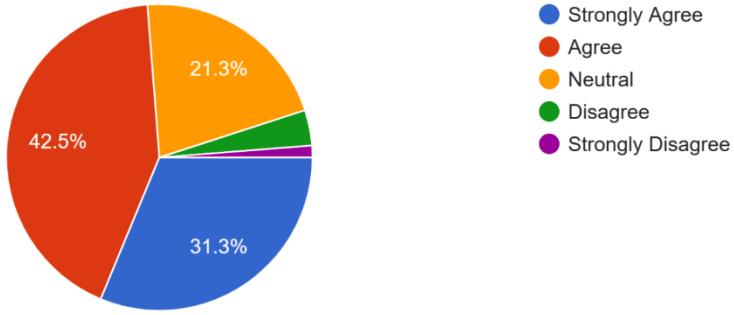
You have learned to solve cubic and quartic polynomial equations with special condition on roots and in general.

80 responses



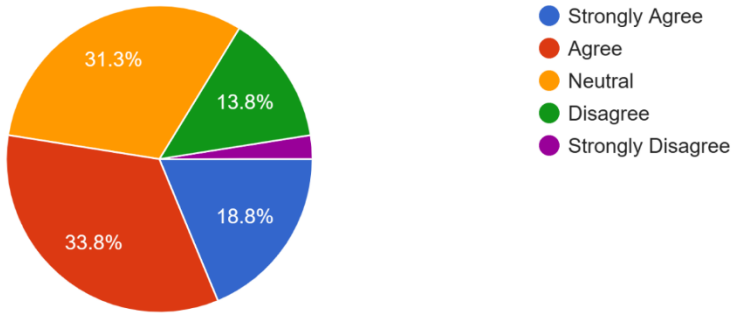
You understood to employ De-Moivre's theorem in a number of applications to solve numerical problems.

80 responses



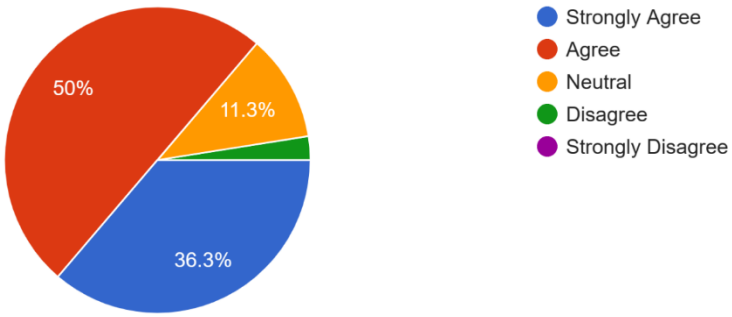
You have learned to use modular arithmetic and basic properties of congruences

80 responses



You have learned to recognize the algebraic structure, namely groups, and classify subgroups of cyclic groups.

80 responses



Observations:

From the given responses, it is observed that around 70% - 80% of students strongly agreed and agreed that they learned to determine the number of positive/negative real roots of real polynomial, cubic and quartic polynomial equations with the special conditions on roots and in general. The majority of students understood how to employ De-Moivre's theorem in a number of applications to solve numerical problems. They also learned to recognize the algebraic structure, namely groups, and classify subgroups of cyclic groups. It is also observed that students had an interest in the paper as 65% of students had more than 67% of attendance.

Action Taken:

For 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 to ensure higher attendance. Assessments would also be done at regular intervals.

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

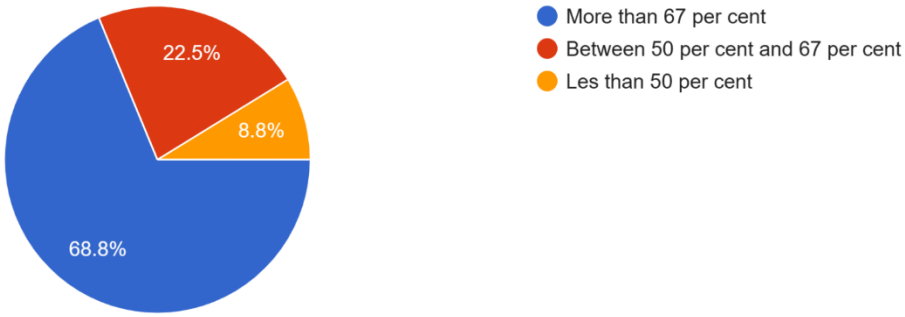
Semester: 1

Paper Name: Discipline Specific Core Course – 2: Elementary Real Analysis

UPC: 2352011102

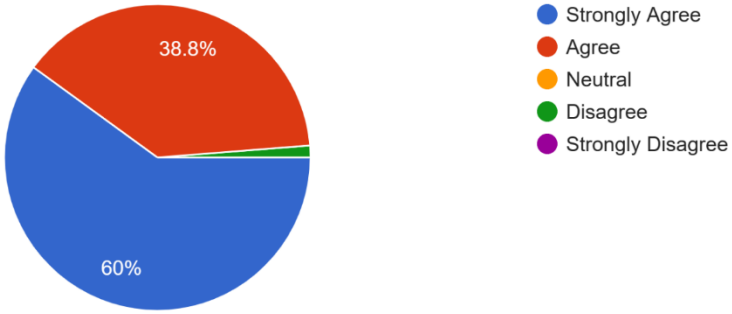
Percentage of classes attended

80 responses



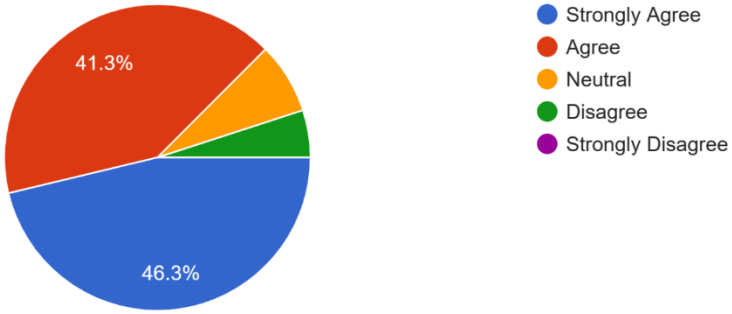
You understood the fundamental properties of the real numbers, including completeness and Archimedean, and density property of rational numbers in $\mathbb{R}$.

80 responses



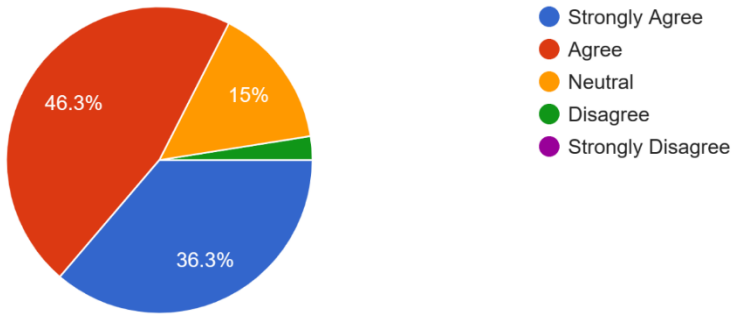
You have learned to define sequences in terms of functions from $\mathbb{N}$ to a subset of $\mathbb{R}$ and find the limit.

80 responses



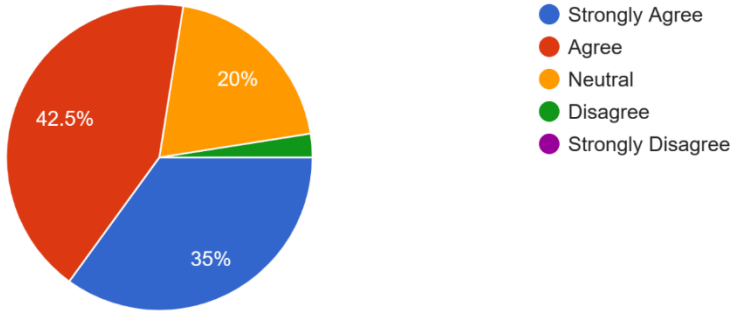
You understood the concepts of bounded, convergent, divergent, Cauchy and monotonic sequences and learned to calculate the limit superior and limit inferior of a bounded sequence.

80 responses



You have learned to apply limit comparison, ratio, root, and alternating series tests for convergence and absolute convergence of infinite series of real numbers.

80 responses



Observations:

From the given responses, it is observed that around 75% - 95% of students strongly agreed and agreed that they understood the fundamental properties of real numbers, including completeness and Archimedean, and density property of rational numbers in $\mathbb{R}$ and learned to define sequences in terms of functions from $\mathbb{N}$ to a subset of $\mathbb{R}$ and find the limit. The majority of students understood to apply limit comparison, ratio, root, and alternating series tests for convergence and absolute convergence of infinite series of real numbers. It is also observed that students had an interest in the paper as 68.8% of students had more than 67% of attendance.

Action Taken:

For 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 to ensure higher attendance. Assessments would also be done at regular intervals.

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

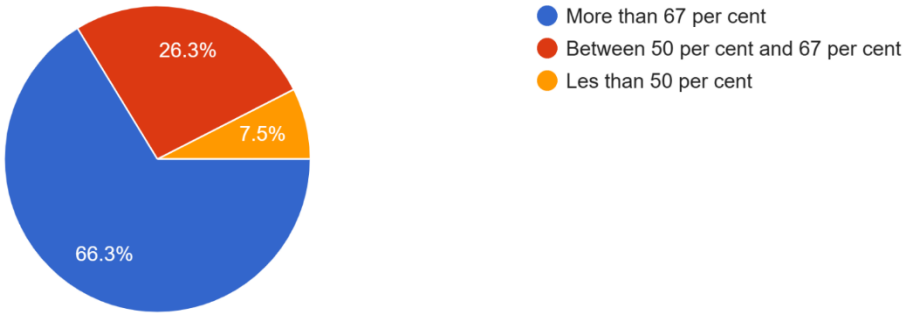
Semester: 1

Paper Name: Discipline Specific Core Course – 3: Probability And Statistics

UPC: 2352011103

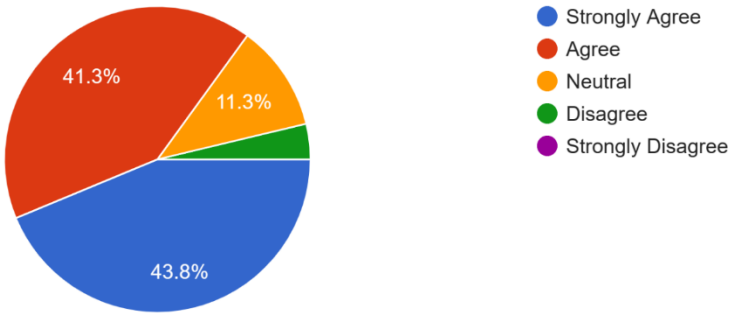
Percentage of classes attended

80 responses



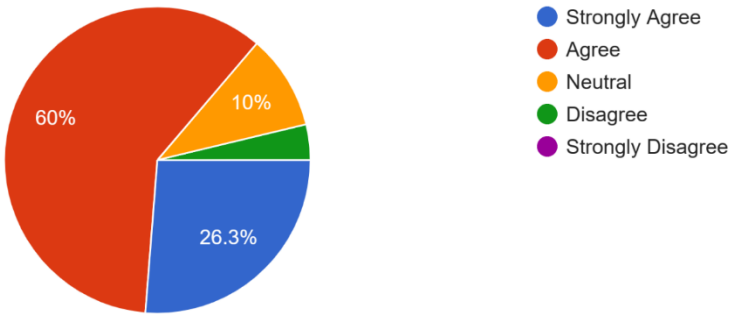
You understood some basic concepts and terminology - population, sample, descriptive and inferential statistics including stem-and-leaf plots, dotplots, histograms and boxplots.

80 responses



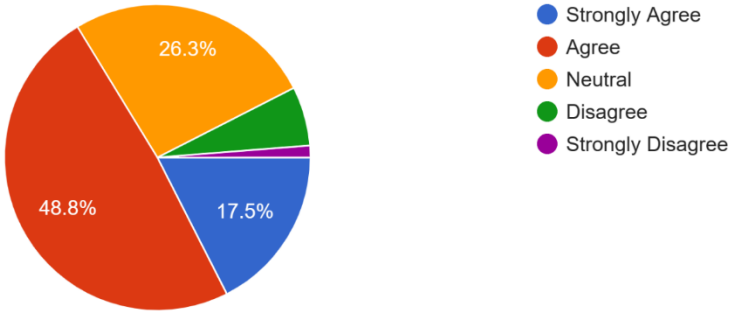
You have learned about probability density functions and various univariate distributions such as binomial, hypergeometric, negative binomial, Poisson, normal, exponential and lognormal.

80 responses



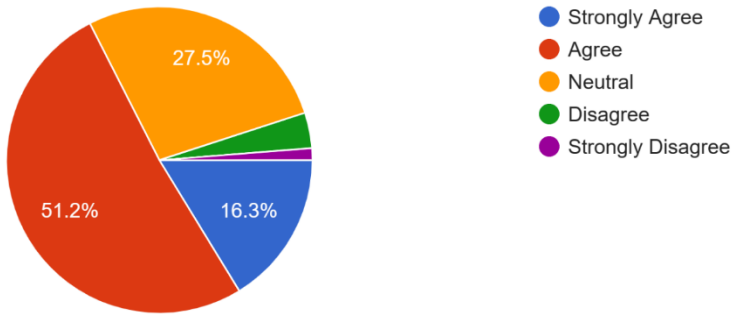
You understood the remarkable fact that the empirical frequencies of so many natural populations, exhibit bell-shaped (i.e., normal) curves, using the Central Limit Theorem.

80 responses



You have learned the method to measure the scale of association between two variables, and to establish a formulation helping to predict one variabl...f the other, i.e., correlation and linear regression.

80 responses



Observations:

From the given responses, it is observed that around 65% - 87% of students strongly agreed and agreed that they understood some basic concepts and terminology - population, sample, descriptive and inferential statistics including stem-and-leaf plots, dotplots, histograms and boxplots and also learned about probability density functions and various univariate distributions such as binomial, hypergeometric, negative binomial, Poisson, normal, exponential and lognormal. The majority of students understood the remarkable fact that the empirical frequencies of so many natural populations, exhibit bell-shaped (i.e., normal) curves, using the Central Limit Theorem and concept of correlation and linear regression. It is also observed that students had an interest in the paper as 66.3% of students had more than 67% of attendance.

Action Taken:

For 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 to ensure higher attendance. Assessments would also be done at regular intervals.

COURSE EXIT SURVEY: Analysis Report

Academic Session: 2022-23

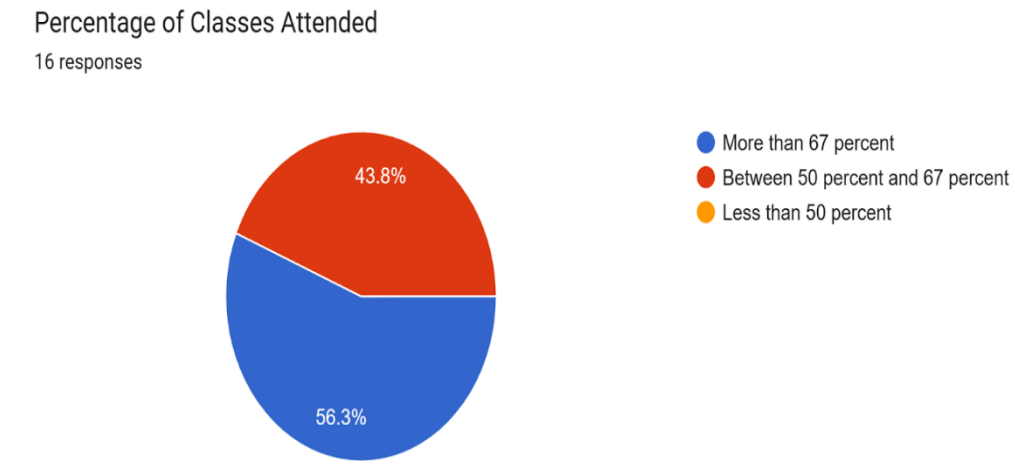
Department: Mathematics

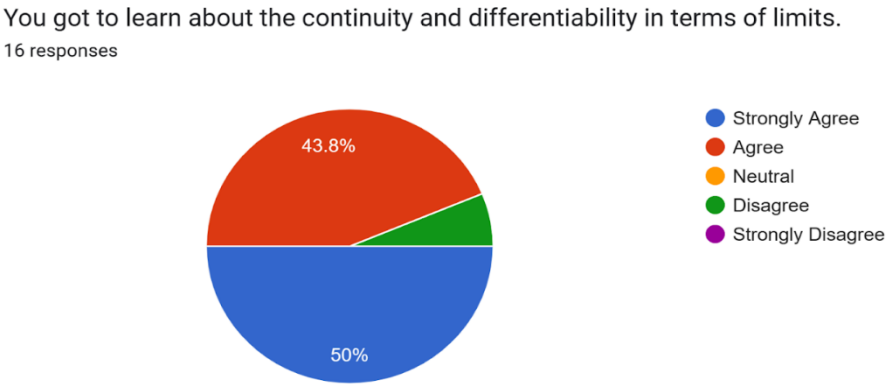
Program: B.A. (H)

Semester: I

Paper Name: GE I-Fundamentals of Calculus

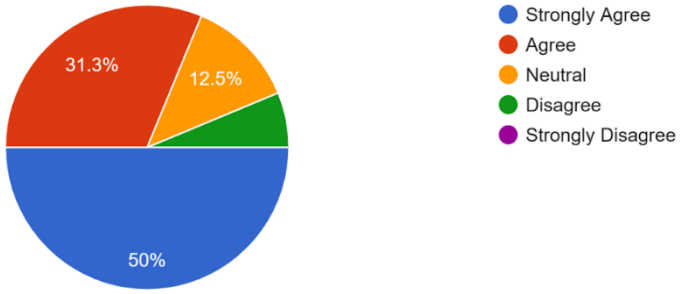
UPC: 2354001001





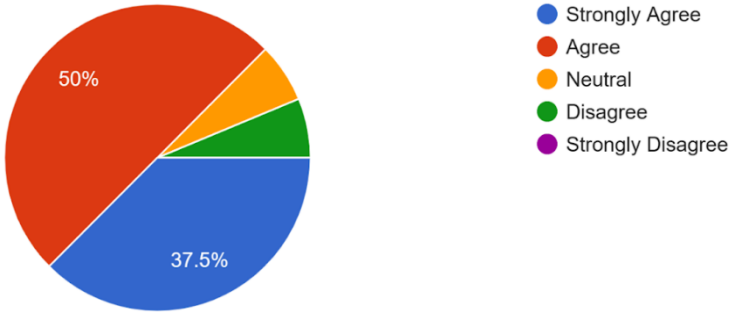
You have learned to describe asymptotic behavior in terms of limits involving infinity.

16 responses



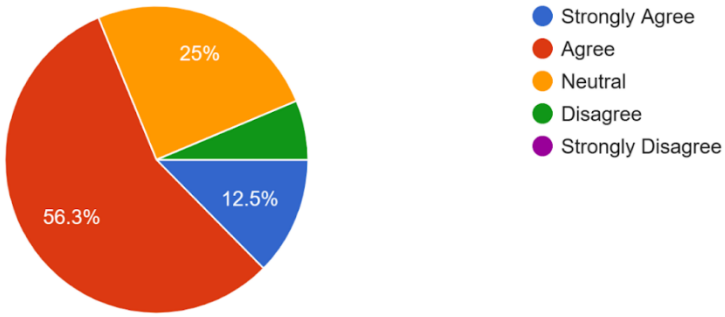
You were able to understand the importance of mean value theorems and its applications.

16 responses



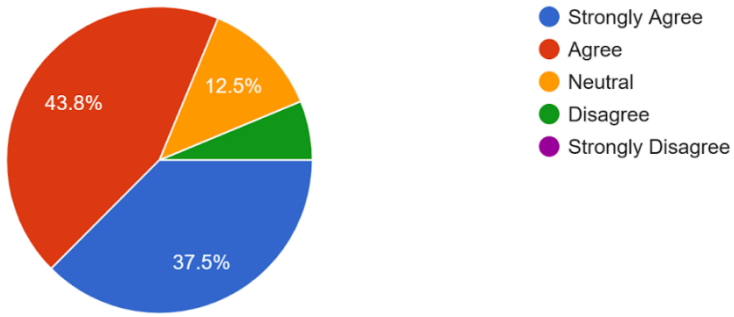
You have learned about Maclaurin's series expansion of elementary functions.

16 responses



You have learned to use derivatives to explore the behavior of a given function, locating and classifying its extrema, and graphing the polynomial and rational functions.

16 responses



Observations: From the given responses, it is observed that around 85-95 % 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 their applications.

It is also observed that students need to be motivated to attend the course as 56.3% students had more than 67% of attendance.

Action Taken: Measures will be taken to make the subject more interesting to the students to ensure higher attendance.

COURSE EXIT SURVEY: Analysis Report
Academic Session: 2022-23

Department: Mathematics

Semester-1(NEP-2020)

Year-1

Paper Name: Analytics/Computing With Python

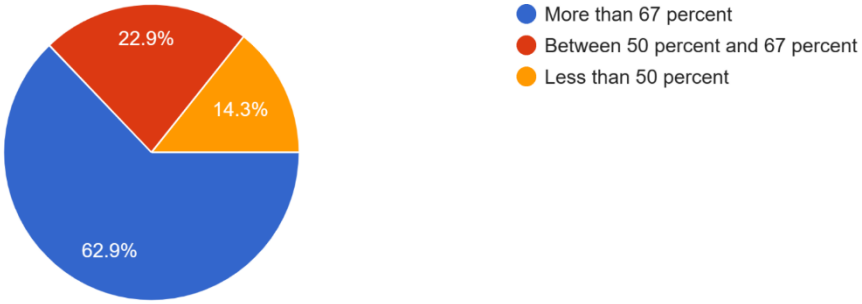
Paper Type: SEC

UPC: 2346001002

Session: 2022-23

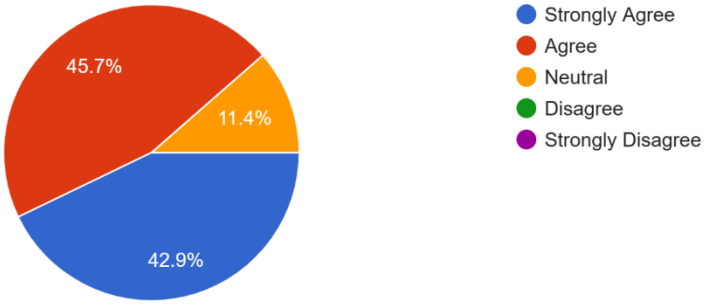
Percentage of Classes Attended

35 responses



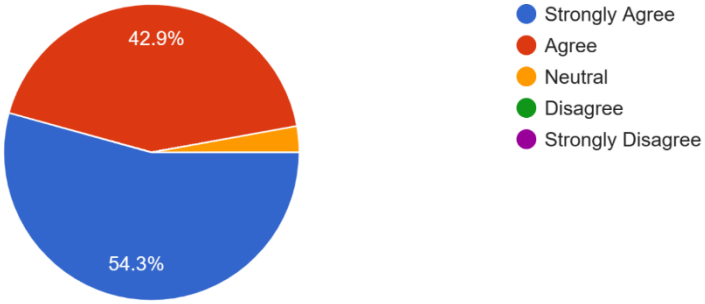
After studying this course, you are able to learn about Python's main features and how they make Python a great tool for financial analysists.

35 responses



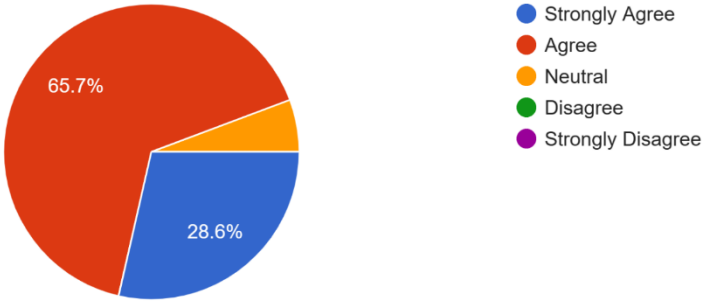
After studying this course, you are able to get familiarized with Anaconda and Jupyter Notebook.

35 responses



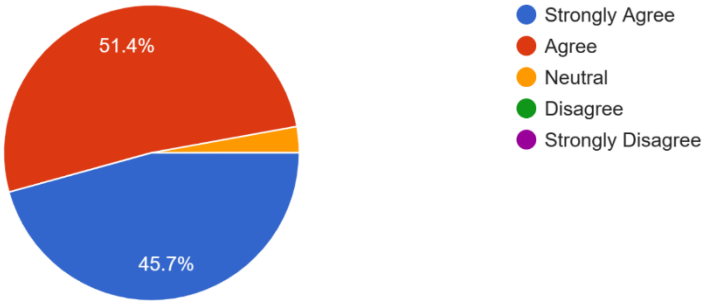
After studying this course, you are able to learn basics of Machine Learning.

35 responses



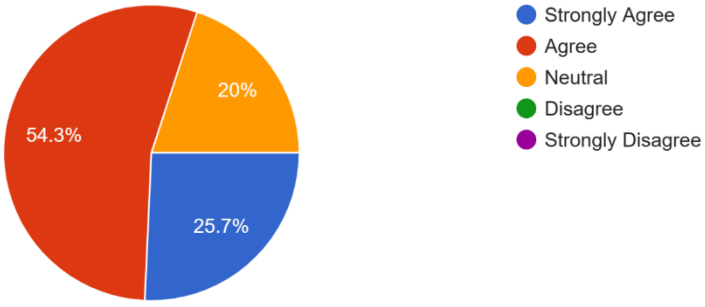
You are able to use conditional statements and loops with basic programming in Python.

35 responses



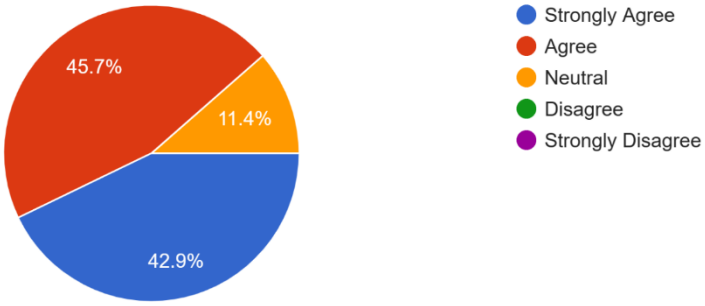
After studying this course, you are able to apply techniques on data.

35 responses



You are able to understand about Python libraries like Pandas, NumPy, Matplotlib, Seaborn, Seaborn.

35 responses



Observations:

From the given responses, it is observed that 88.6% of the students strongly agreed and agreed that they were able to learn about Python's main features and how they make Python a great tool for financial analysts. Also they were able to use Python libraries like Pandas, NumPy, Matplotlib, Scikit-learn, and Seaborn. 97.2% of the students strongly agreed and agreed that they were able to get familiarized with Anaconda and Jupyter Notebook. 94.3% of the students strongly agreed and agreed that they were able to learn basics of Machine Learning. 97.1% of the students strongly agreed and agreed that they were able to use

conditional statements and loops with basic programming in Python. 80.0% of the students strongly agreed and agreed that they were able to apply techniques on data.

Actions Taken

The response to this paper has been encouraging. More efforts will be made to keep students intrigued. For moderate responses, topics will be discussed more with the students in practicals. For the weaker students, special classes will be held to discuss important practicals with them. Assessments like tests, assignments, quizzes, presentations and internal practicals would also be done at regular intervals.

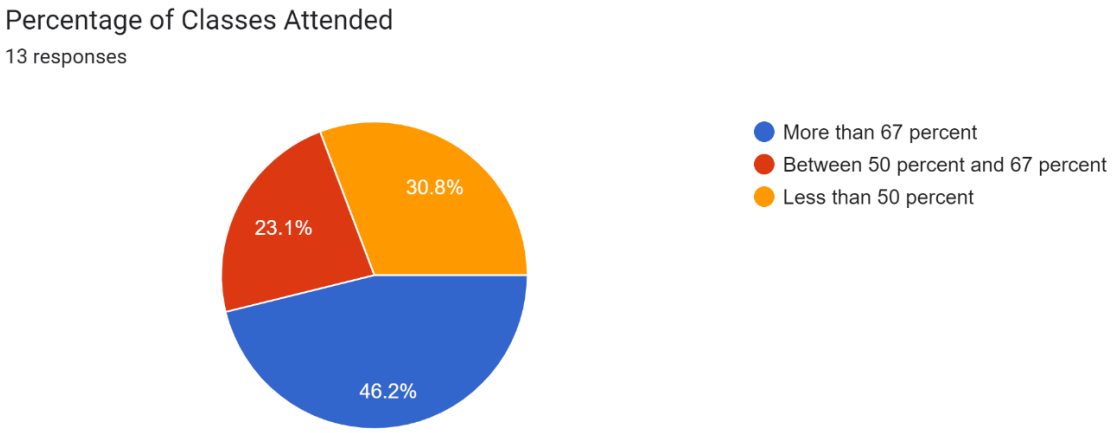
COURSE EXIT SURVEY: Analysis Report
Academic Session: 2022-23

Department: Mathematics

Semester: 1

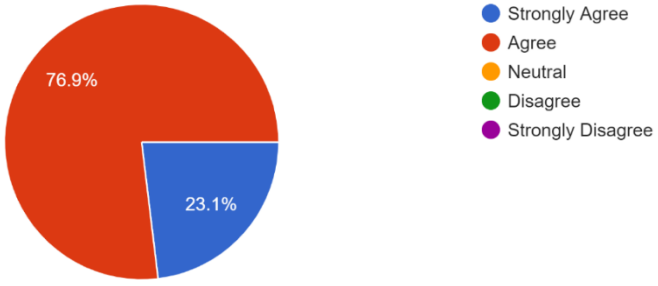
Paper Name: SEC: Statistics with R

UPC: 2926001005



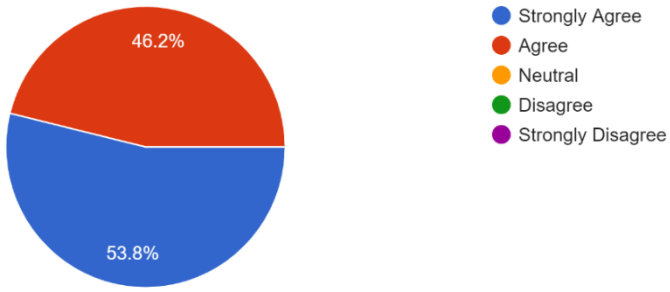
You are able to extract, read data into R, manipulate, and analyse it.

13 responses



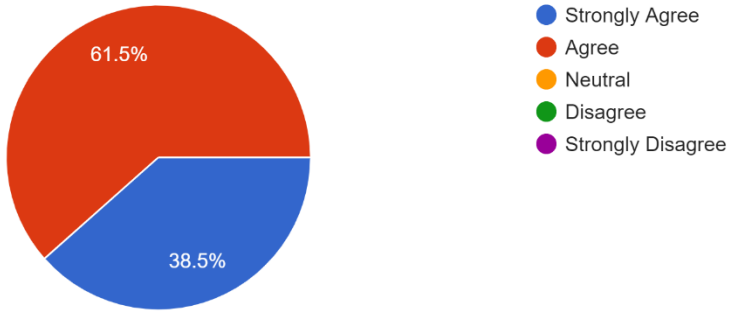
You are able to understand the R environment for downloading, installing, and using packages.

13 responses



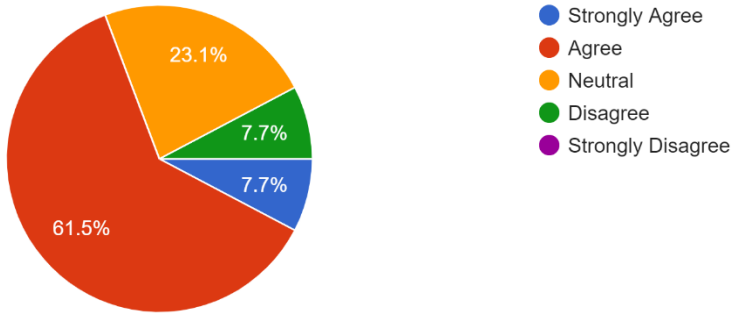
You are able to do basic programming to write own functions.

13 responses



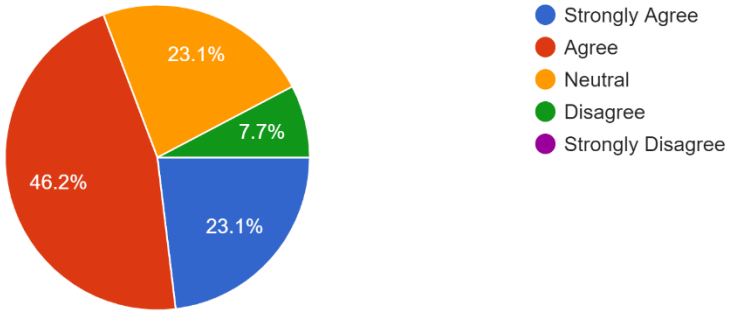
You are able to use loops.

13 responses



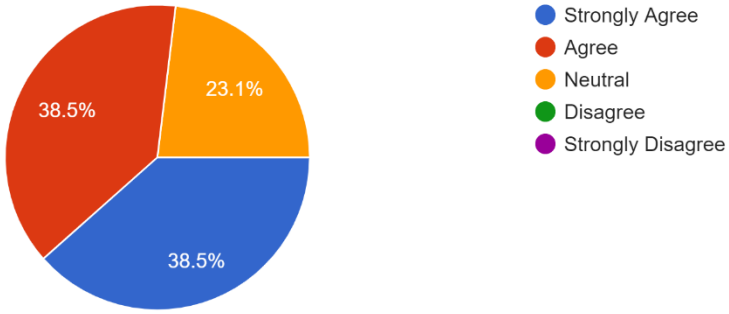
You are able to create standard and customized graphics.

13 responses



You are able to perform basic statistical operations and regressions.

13 responses



Observations:

From the given responses, it is observed that 100% of the students strongly agreed and agreed that they are able to extract, read data, manipulate, and analyse data into R and they are able to understand the R environment for downloading, installing, and using packages. Also, they are able to do basic programming to write their own functions. It is also observed that around 70% of the students are able to use loops, create standard and customized graphics. Also, they are able to perform basic statistical operations and regressions.

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 practicals. For the weak students, special classes will be held to discuss important practicals with them. Assessments like quiz, presentations would also be done at regular intervals.

COURSE EXIT SURVEY: Analysis Report

Academic Session: 2022-23

Department: Mathematics

Course: BA Prog. (NEP-2020)

Semester-1(NEP-2020), Year-1

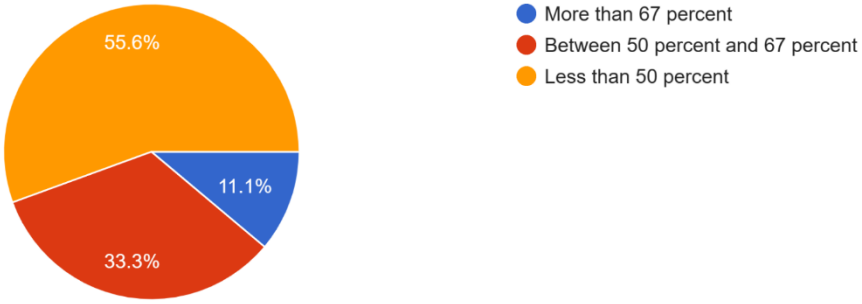
Paper: Topics in Calculus

Paper Code: 2352571101

Session: 2022-23

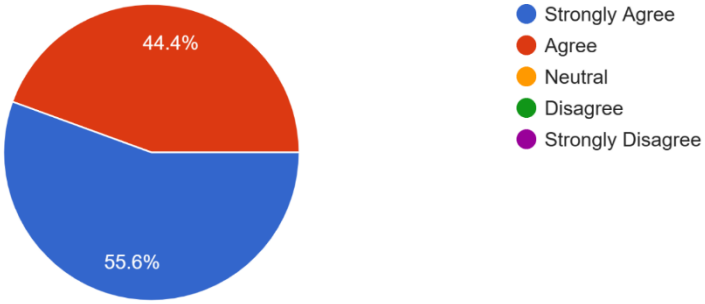
Percentage of Classes Attended

9 responses



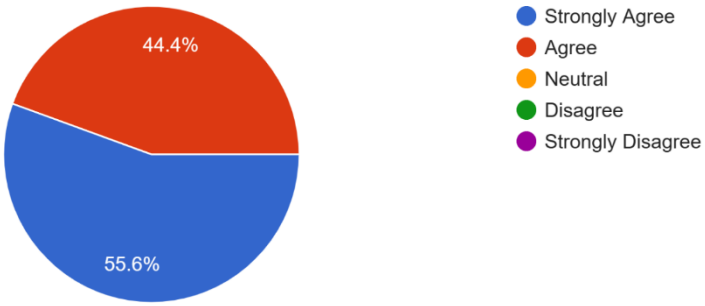
You got to learn about the continuity and differentiability in terms of limits and graphs.

9 responses



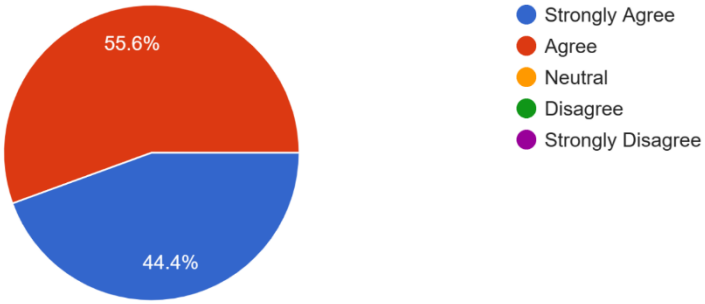
You have learned to describe asymptotic behavior in terms of limits involving infinity.

9 responses



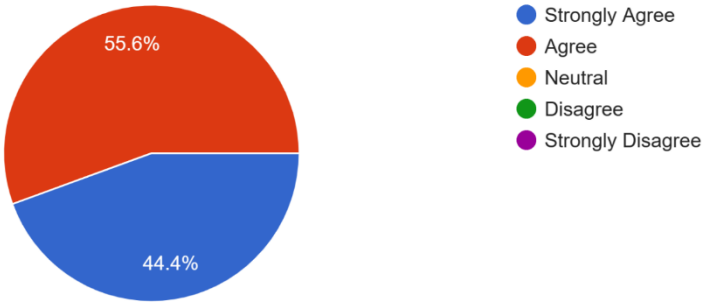
You were able to understand the importance of mean value theorems and its applications.

9 responses



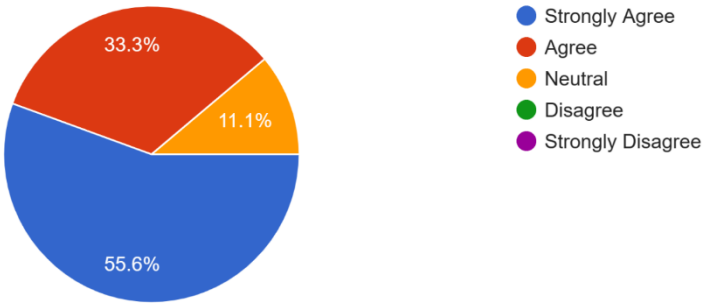
You have learned to use derivatives to explore the behavior of a given function, locating and classifying its extrema, and graphing the polynomial and rational functions.

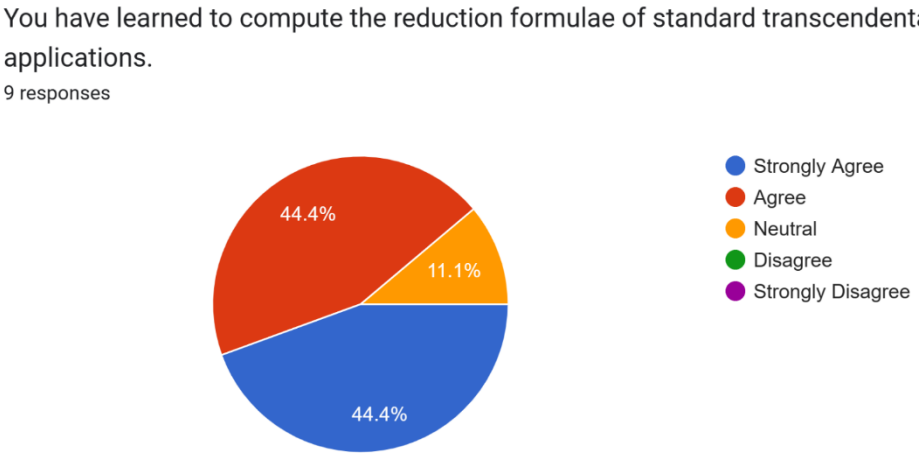
9 responses



You have learned to apply the concepts of asymptotes, and inflexion points in tracing of cartesian curves.

9 responses





Observations:

From the given responses, it is observed that 100% of the students strongly agreed and agreed that they were able to learn about the continuity and differentiability in terms of limits and graphs and learned to describe asymptotic behavior in terms of limits involving infinity. They were also able to understand the importance of mean value theorems and its applications and learned to use derivatives to explore the behavior of a given function, locating and classifying its extrema, and graph the polynomial and rational functions. 88.9% of the students strongly agreed and agreed that they were able to learn to apply the concepts of asymptotes, and inflexion points in tracing of cartesian curves and to compute the reduction formulae of standard transcendental functions with applications.

Actions Taken

The response to this paper has been encouraging. More efforts will be made to keep students intrigued. For moderate responses, topics will be discussed more with the students. For the weaker students, special classes will be held to discuss important topics. Assessments like tests, assignments, and Viva would also be done at regular intervals.

COURSE EXIT SURVEY: Analysis Report
Academic Session: 2022-23

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

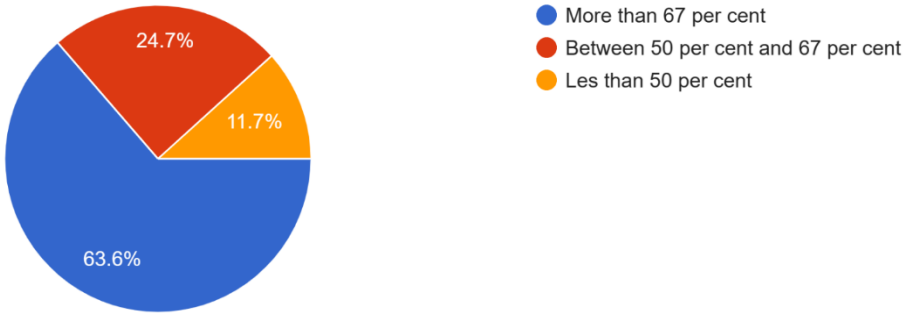
Semester: II

Paper Name: Discipline Specific Core Course – 4: Linear Algebra

UPC: 2352011201

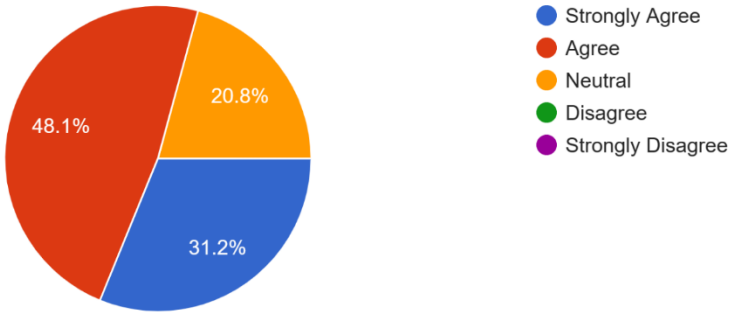
Percentage of classes attended

77 responses



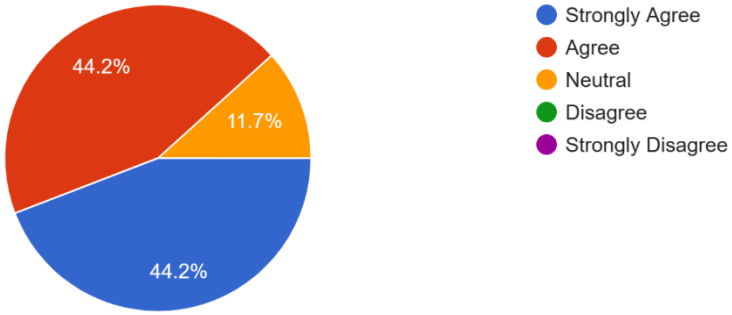
You have learned to visualize the space $RRnn$ in terms of vectors and their interrelation with matrices.

77 responses



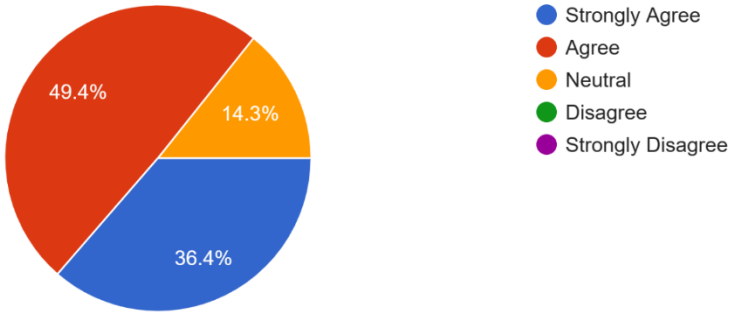
You have familiarized with basic concepts in vector spaces, linear independence and span of vectors over a field.

77 responses



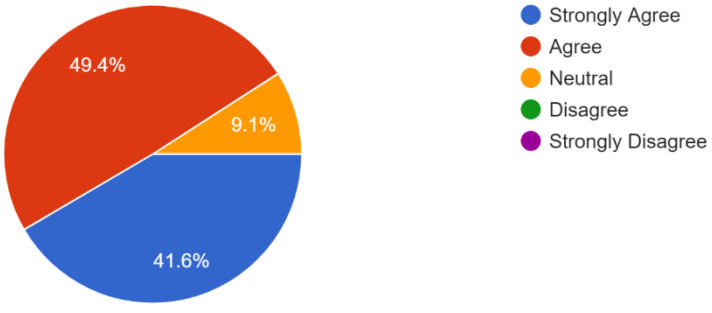
You understood the concept of basis and dimension of a vector space.

77 responses



You have learned the basic concepts of linear transformations, dimension theorem, matrix representation of a linear transformation with application to computer graphics.

77 responses



Observations:

From the given responses, it is observed that more than 79%-90% students strongly agreed and agreed that they learned to visualize the space □□ in terms of vectors and their interrelation with matrices, understood the basic concepts of vector spaces, linear independence and span of vectors over a field, basis and dimension of a vector space and concepts of linear transformations, dimension theorem, matrix representation of a linear transformation with application to computer graphics. It is also observed that students had an interest in the paper as 63.6% of students had more than 67% of attendance.

Action Taken:

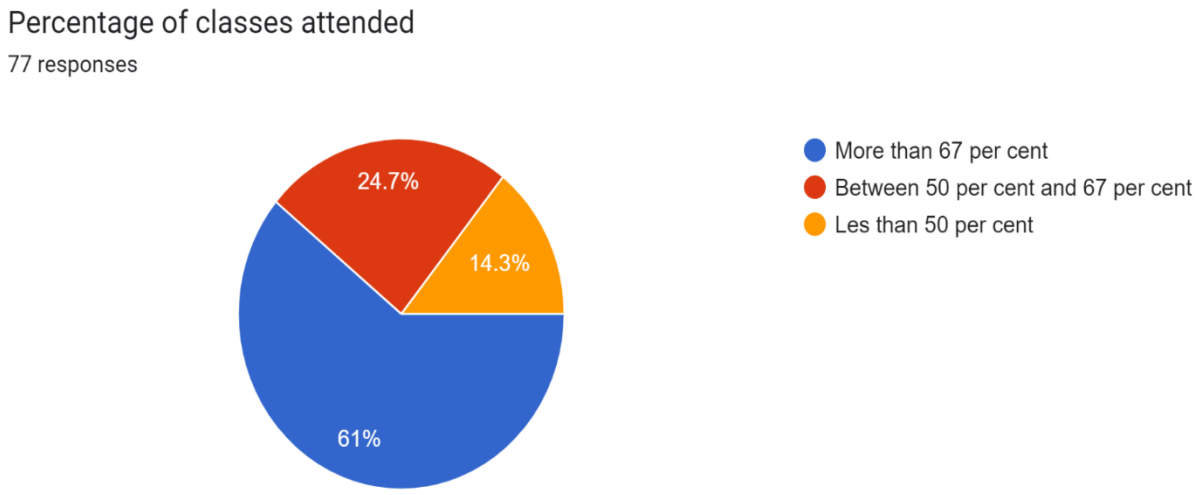
For moderate responses, topics will be discussed more with the students in tutorials. For the weak students, special classes will be held to discuss important questions with them. Measures will be taken to make the subject more engaging and appealing to the students to ensure higher attendance. Assessments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

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

Semester: II

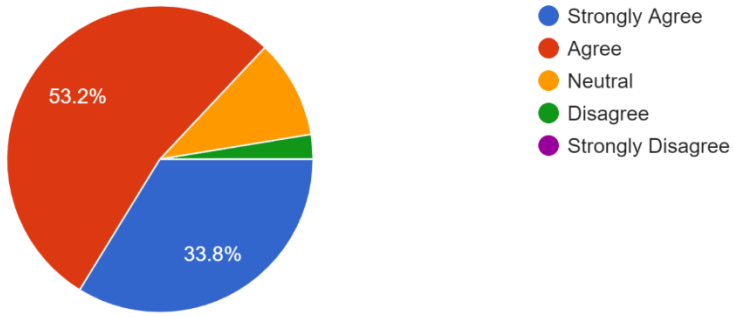
Paper Name: Discipline Specific Core Course – 5: Calculus

UPC: 2352011202



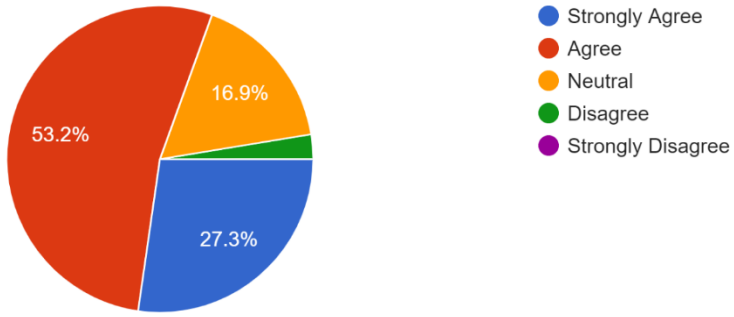
You understood the notion of limits, continuity and uniform continuity of functions.

77 responses



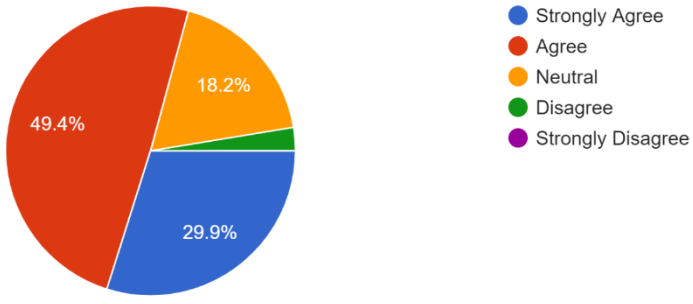
You have learned the geometrical properties of continuous functions on closed and bounded intervals.

77 responses



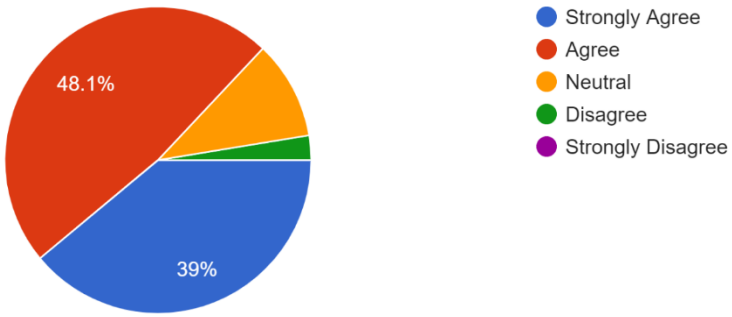
You understood the applications of derivative, relative extrema and mean value theorems.

77 responses



You learned the higher order derivatives, Taylor's theorem, indeterminate forms and tracing of curves.

77 responses



Observations:

From the given responses, it is observed that around 79% - 88% of students strongly agreed and agreed that they understood the notion of limits, continuity and uniform continuity of functions, geometrical properties of continuous functions on closed and bounded intervals, applications of derivative, relative extrema and mean value theorems and higher order derivatives, Taylor's theorem, indeterminate forms and tracing of curves. It is also observed that students had an interest in the paper as 61% of students had more than 67% of attendance.

Action Taken:

For 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 appealingto ensure higher attendance. Assessments would also be done at regular intervals.

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

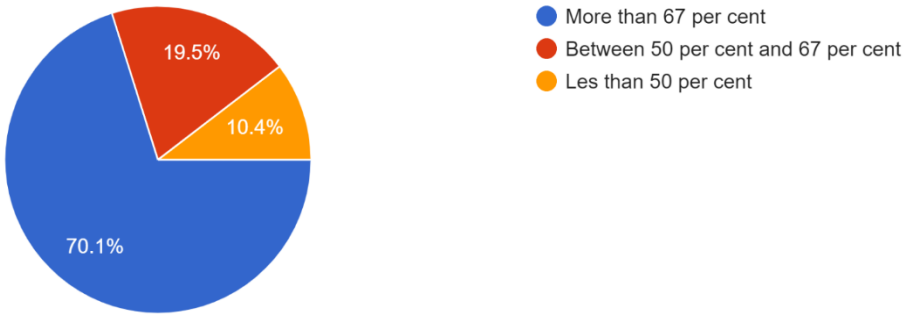
Semester: II

Paper Name: Discipline Specific Core Course – 6: Ordinary Differential Equations

UPC: 2352011203

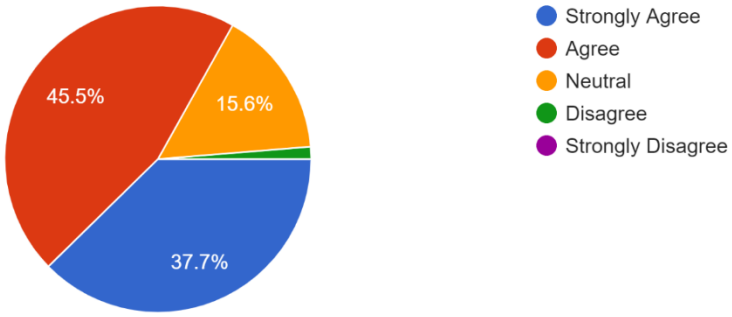
Percentage of classes attended

77 responses



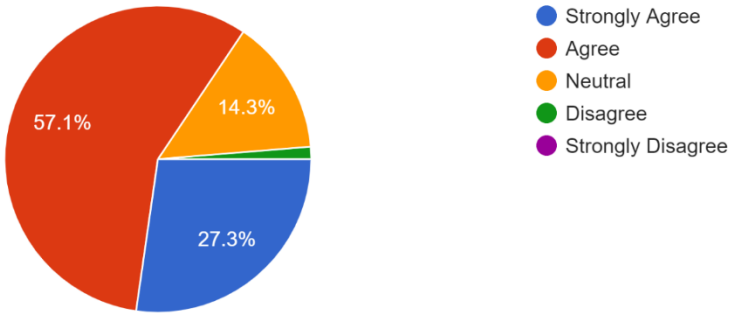
You understood the basics of differential equations and compartmental models.

77 responses



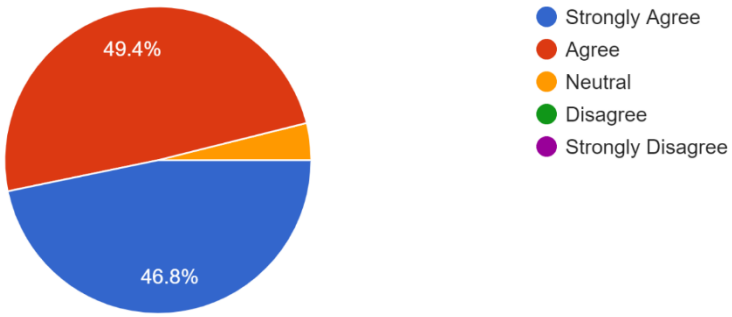
You have learned to formulate differential equations for various mathematical models.

77 responses



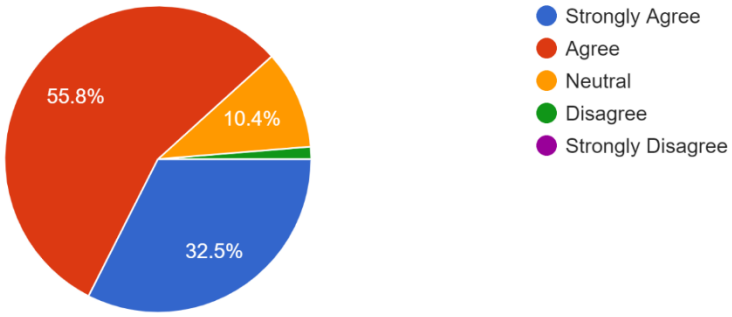
You learned to solve first order non-linear differential equations, linear differential equations of higher order and system of linear differential equations using various techniques.

77 responses



You have learned to apply these techniques to solve and analyze various mathematical models.

77 responses



Observations:

From the given responses, it is observed that around 83% - 97% of students strongly agreed and agreed that they understood the basics of differential equations and compartmental models, formulate differential equations for various mathematical models, solving first order nonlinear differential equations, linear differential equations of higher order and system of linear differential equations using various techniques and apply these techniques to solve and analyze various mathematical models. It is also observed that students had an interest in the paper as 70% of students had more than 67% of attendance.

Action Taken:

For 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. Assessments would also be done at regular intervals.

Academic Session: 2022-23

Department: Mathematics

Program: B.A (P)

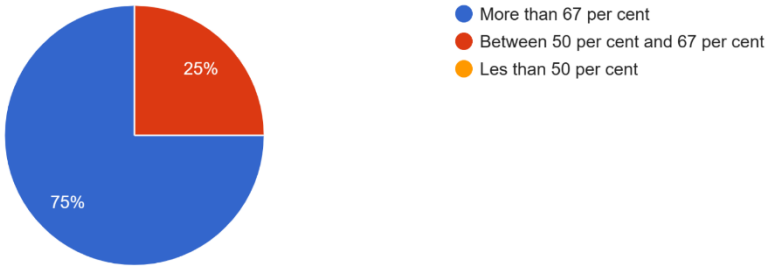
Semester: 1I

Paper Name: GENERIC ELECTIVES (GE-2(ii)) : Introduction to Linear Algebra

UPC: 2354001202

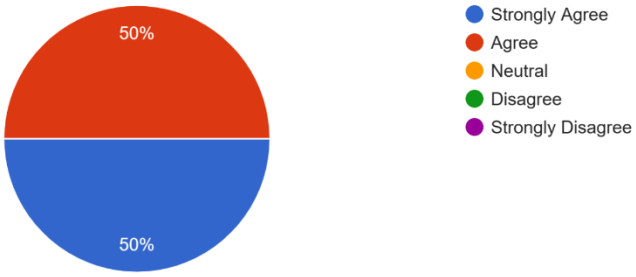
Percentage of classes attended

4 responses



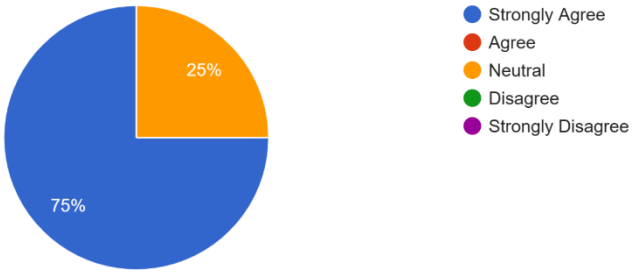
You have learned to Visualize the space Rn in terms of vectors and the interrelation of vectors with matrices.

4 responses



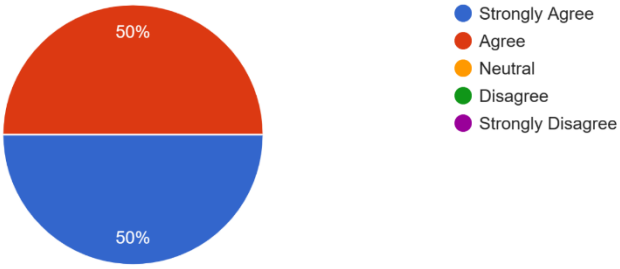
You have understood important uses of eigenvalues and eigenvectors in the diagonalization of matrices.

4 responses



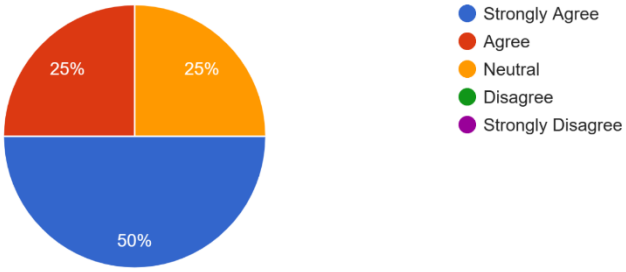
You have familiarized with concepts of bases, dimension and minimal spanning sets in vector spaces.

4 responses



You have learned the concepts of linear transformation and its corresponding matrix.

4 responses



Observations: From the given responses, it is observed that around 85-90 % of students strongly agreed or agreed that they were able to learn the concept of vectors with matrices, eigenvalues and eigenvectors in the diagonalization of matrices, bases, dimension and minimal spanning sets, linear transformation and its corresponding matrix in linear algebra and their applications.

It is also observed that students need to be motivated to attend the course as 75% students had more than 67% of attendance.

Action Taken: Measures will be taken to make the subject more interesting to the students to ensure higher attendance. Remedial classes will be conducted for slow learnersfor better understanding of the subject.

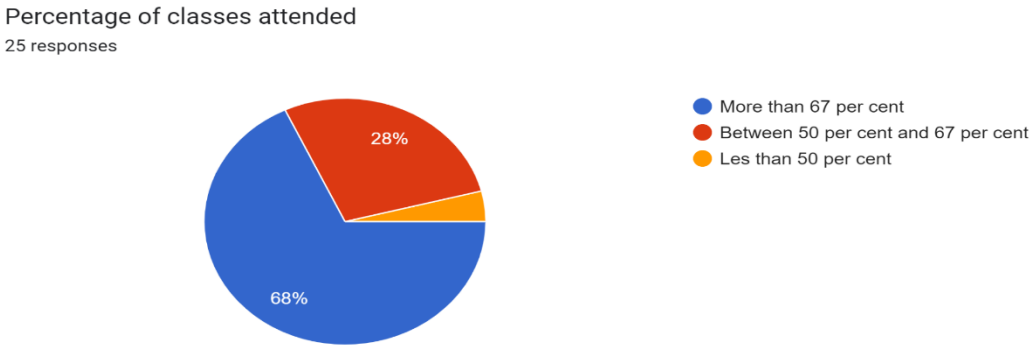
COURSE EXIT SURVEY: Analysis Report
Academic Session: 2022-23

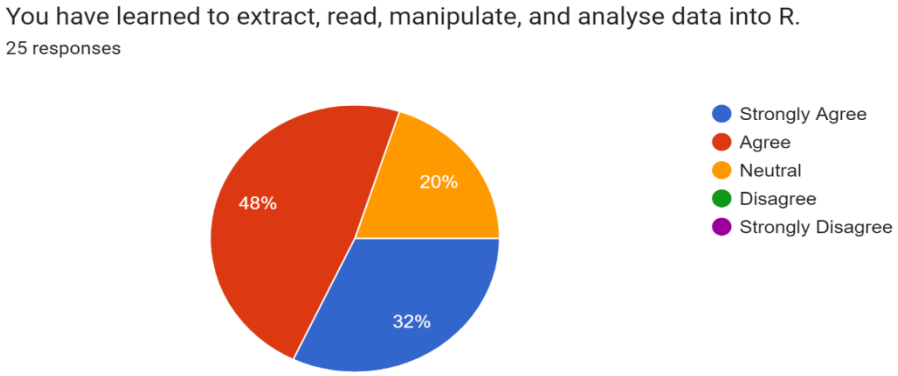
Department: Mathematics

Semester-II (NEP-2020)

Year-1 **Paper Name: Statistics with R**

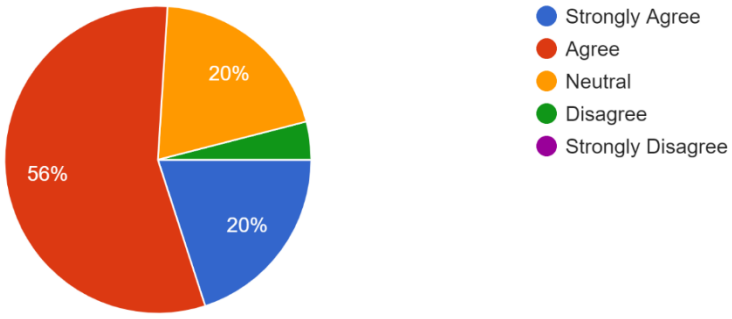
Paper Type: SEC **UPC: 2926001005** **Session: 2022-23**





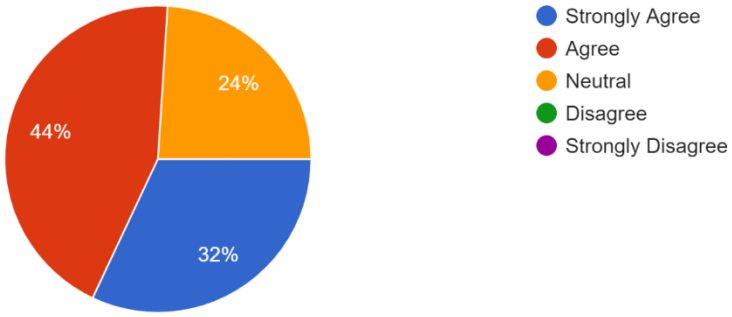
You are able to debug, organize, and comment R.

25 responses



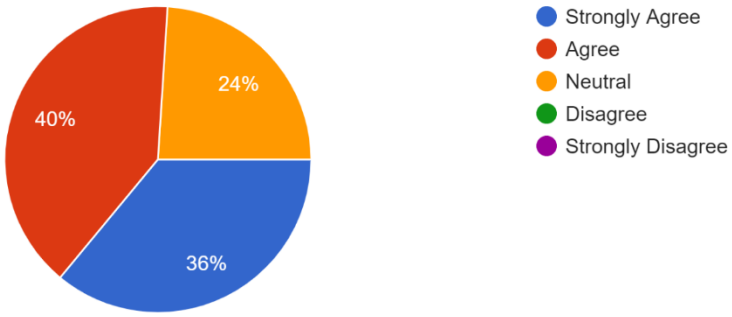
You understood the R environment for downloading, installing, using loops and packages.

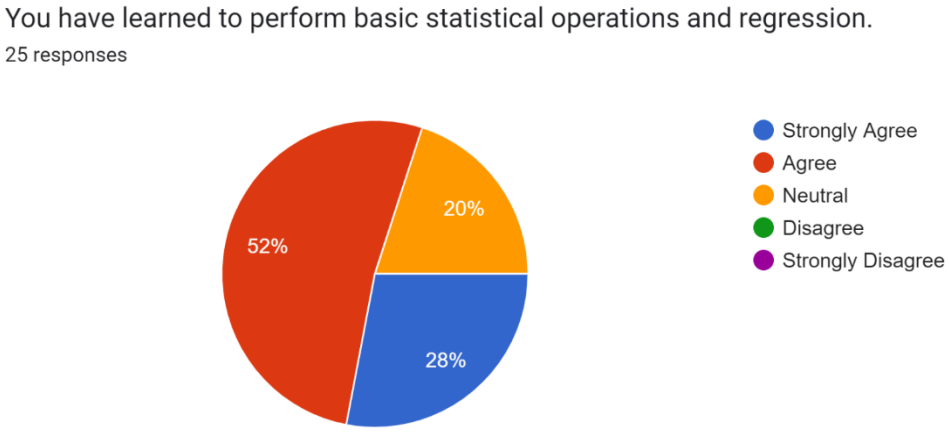
25 responses



You have learned to do basic programming to write functions and create standard and customized graphics.

25 responses





Observations:

From the given responses, it is observed that the 76% to 80% of the students strongly agreed and agreed that they were able to handle data in the R software thereby helping them to understand meaningful statistical analysis performed on the data, extract data, and perform basic statistical operations entailing data analysis such as – data cleaning, data visualization, data summarization, and regression. It is also observed that students need to be motivated to attend the course as 68% 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 moderate responses, topics will be discussed more with the students in practicals. For the weaker students, special classes will be held to discuss important practicals with them. Assessments like tests, assignments, quizzes, presentations and internal practicals would also be done at regular intervals.

COURSE EXIT SURVEY: Analysis Report
Academic Session: 2022-23

Department: Mathematics **Program: B.A.(Prog.)**

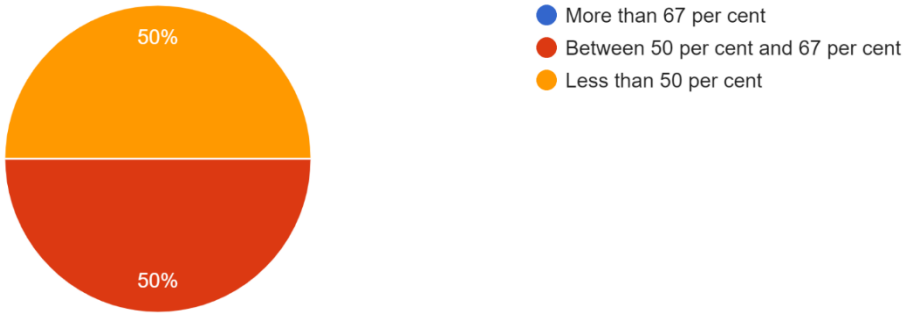
Semester: II

Paper Name: Discipline Specific Core Course – 2:Elementary Linear Algebra

UPC: 2352571201

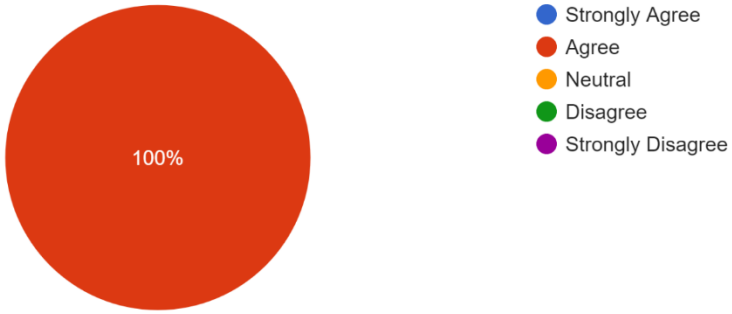
Percentage of classes attended

4 responses



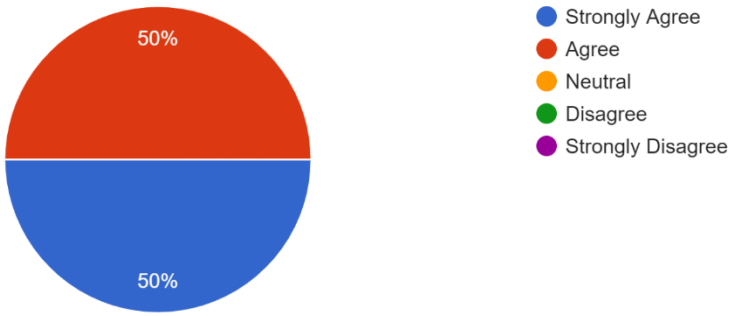
You have learned to visualize the space $RRnn$ in terms of vectors and their interrelation with matrices.

4 responses



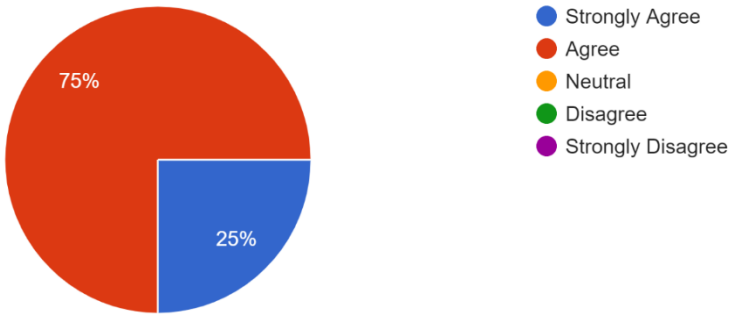
You have familiarized with basic concepts in vector spaces, linear independence and span of vectors over a field.

4 responses



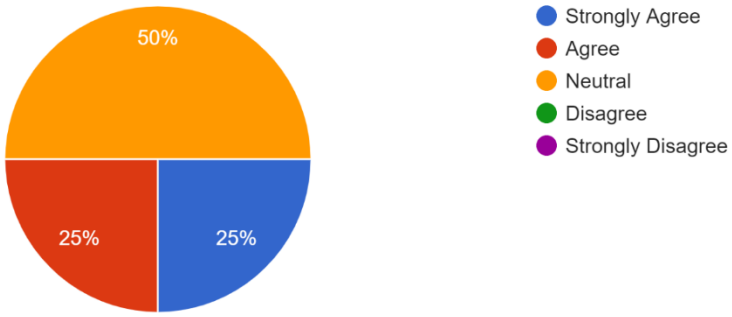
You understood the concept of basis and dimension of a vector space.

4 responses



You have learned the basic concepts of linear transformations and its corresponding matrix.

4 responses



Observations:

From the given responses, it is observed that 100% students agreed that they have learned to visualize the space Rn in terms of vectors and their interaction with matrices. About 50% of the students strongly agree that they are familiarized with basic concepts in vector spaces,linearly independent and the span of vectors over a field. Mostly agree that they understood the concept of basis and dimension of vector space.

Action Taken:

For moderate responses, topics will be discussed more with the students in tutorials. Measures will be taken to make the subject more engaging and appealing to the students to ensure higher attendance. Assessments would also be done at regular intervals.

COURSE EXIT SURVEY: Analysis Report
Academic Session: 2022-23

Department: Mathematics **Program: B.A.(Prog.)**

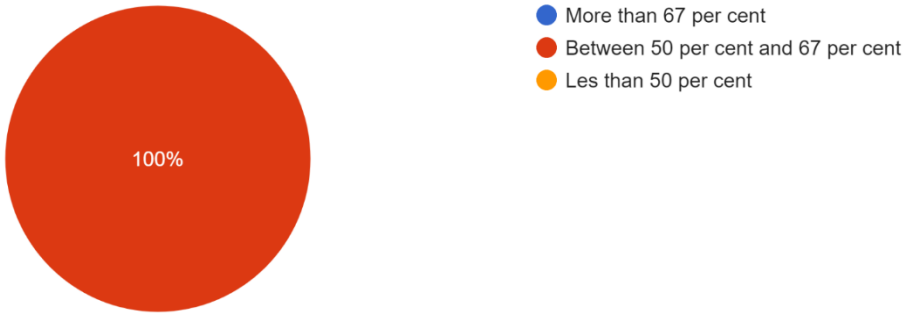
Semester: II

Paper Name: Discipline Specific Core Course – 2:Analytic Geometry

UPC: 2352201202

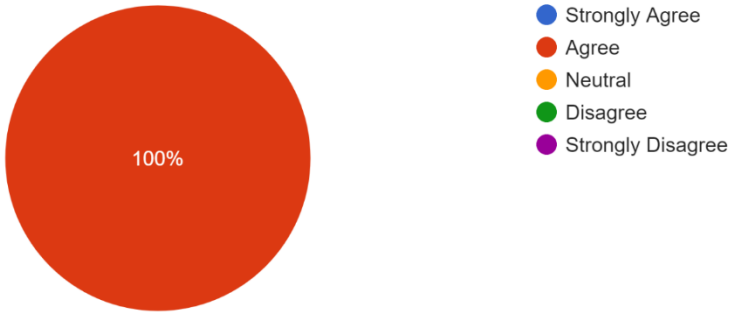
Percentage of classes attended

1 response



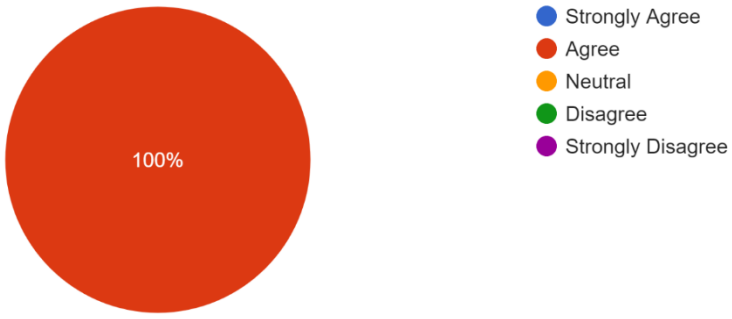
You have learnt the concepts in two-dimensional geometry.

1 response



You have learnt to identify and sketch conics namely ellipse, parabola and hyperbola.

1 response



You have learnt about 3D objects such as straight lines using vectors, spheres, cones and cylinders.

1 response

You have learnt about 3D objects such as planes using vectors, spheres, cones and cylinders.

1 response

Observations:

This paper was opted by only one student.

From the given response, it is observed that the student agreed that she has learnt the concepts in two dimensional geometry and is able to identify and sketch conics namely ellipse,parabola and hyperbola.

Action Taken:

Measures will be taken to make the subject more popular so that more students will opt for this paper.

COURSE EXIT SURVEY: Analysis Report

Academic Session: 2022-23

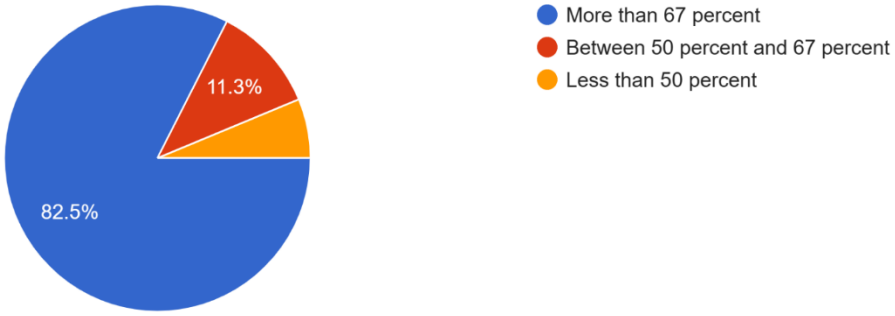
Department: Mathematics **Program: B.Sc.(H) Mathematics**

Semester: 3

Paper Name: BMATH305: Theory of Real Functions

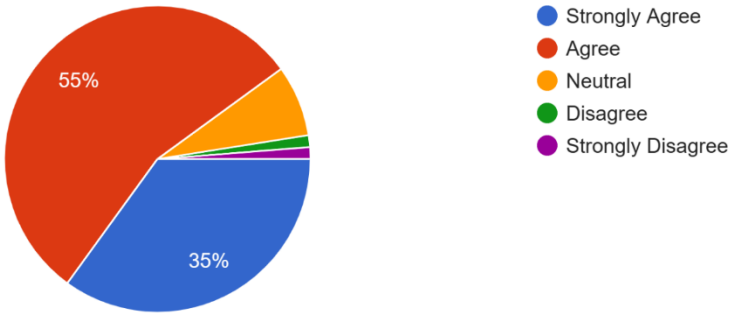
Percentage of Classes Attended

80 responses



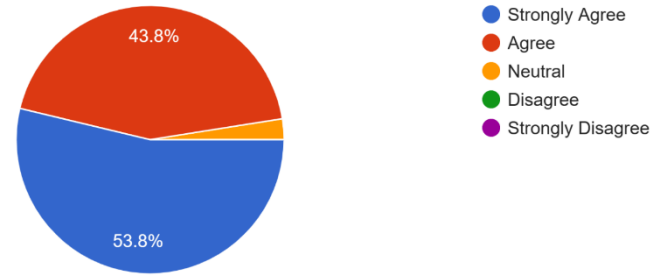
You got a rigorous understanding of the concept of limit of a function.

80 responses



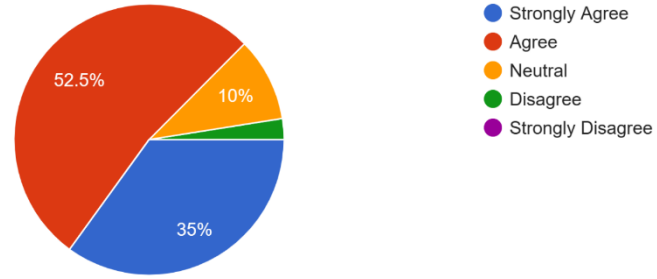
You have learned about continuity and uniform continuity of functions defined on intervals.

80 responses



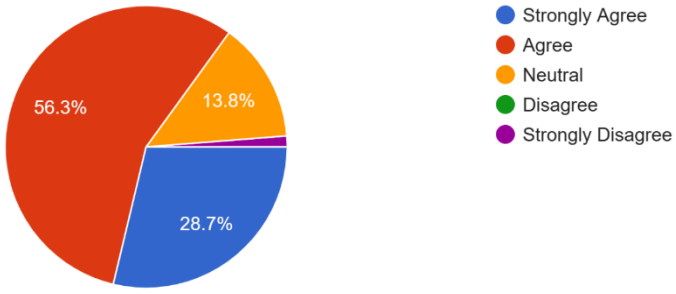
You understood geometrical properties of continuous functions on closed and bounded intervals.

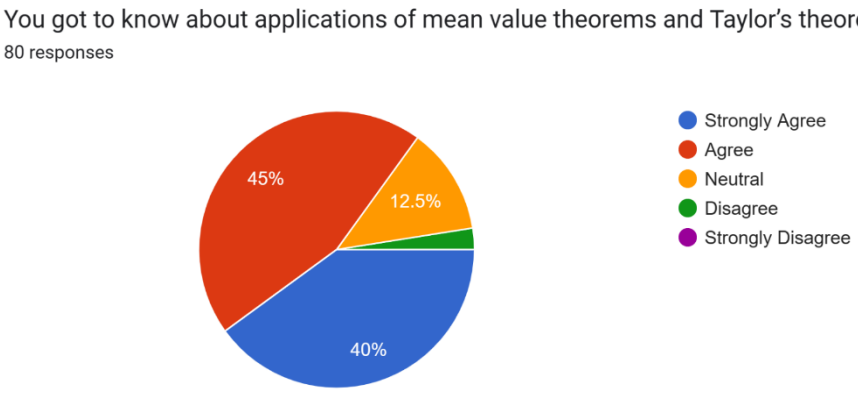
80 responses



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

80 responses





Observations:

From the given responses, it is observed that around 85-95% 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 82.5% of students had more than 67% of attendance.

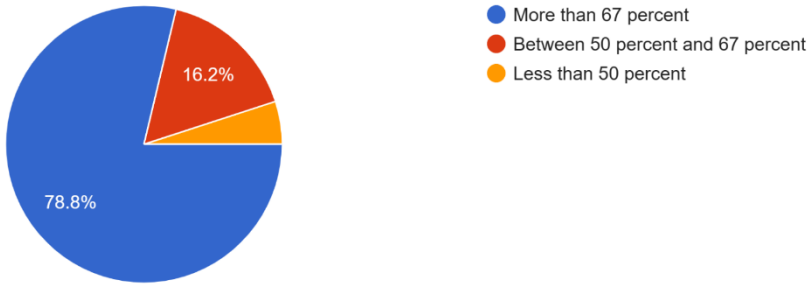
Action Taken:

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

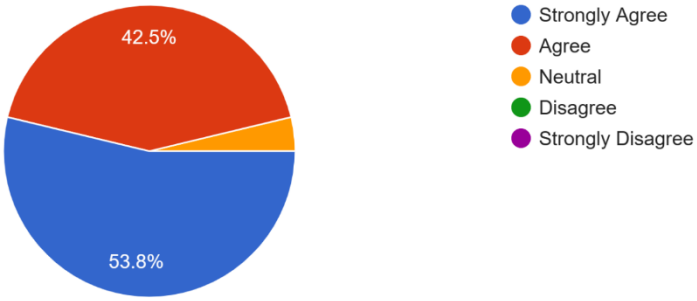
Percentage of Classes Attended

80 responses



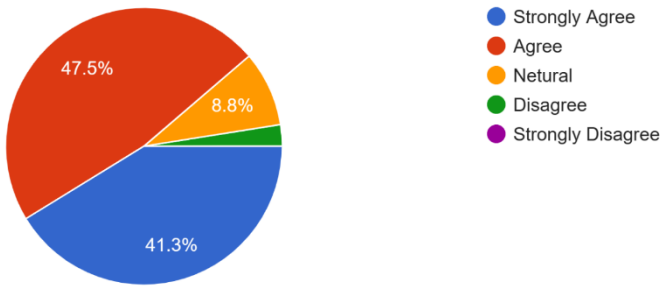
You were able to recognized the mathematical objects that are groups, and classify them as abelian, cyclic and permutation groups, etc.

80 responses



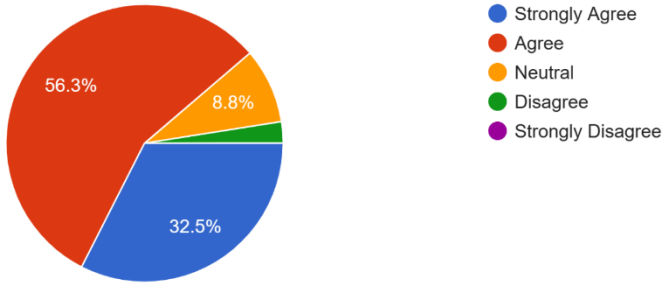
You were able to link the fundamental concepts of groups and symmetrical figures.

80 responses



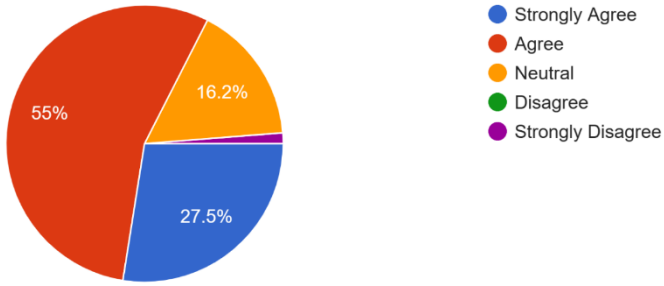
You were able to analyze the subgroups of cyclic groups and classify subgroups of cyclic groups.

80 responses



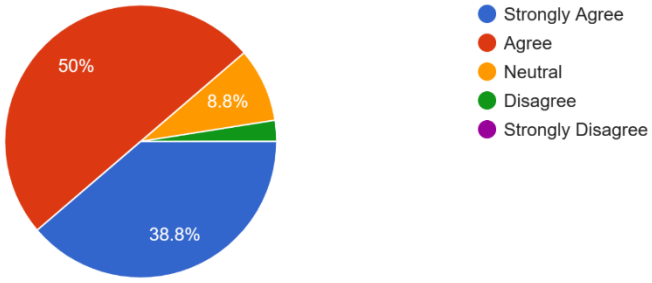
You were able to explain the significance of the notion of cosets, normal subgroups and factor groups.

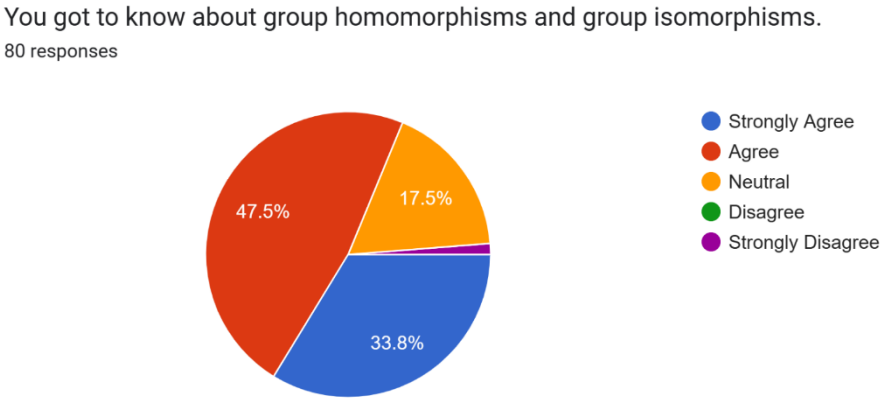
80 responses



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

80 responses





Observations:

From the given responses, it is observed that 85-95% 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 78.8% of students had more than 67% of attendance.

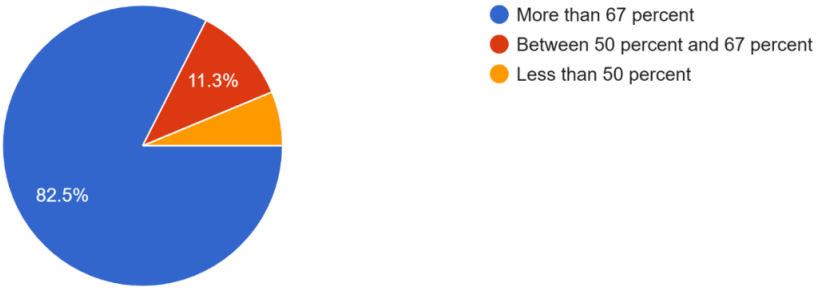
Action Taken:

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

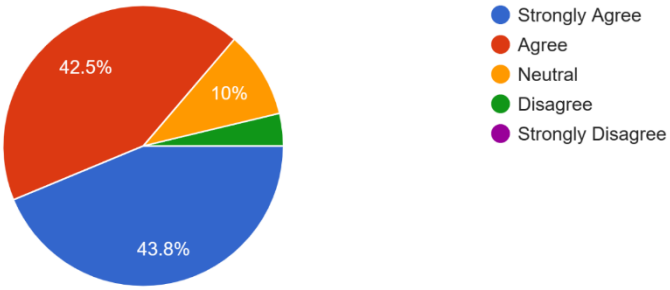
Percentage of Classes Attended

80 responses



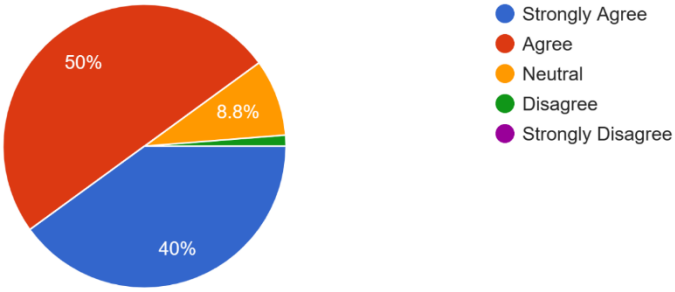
You were able to learn the conceptual variations when advancing in calculus from one variable to multivariable discussion.

80 responses



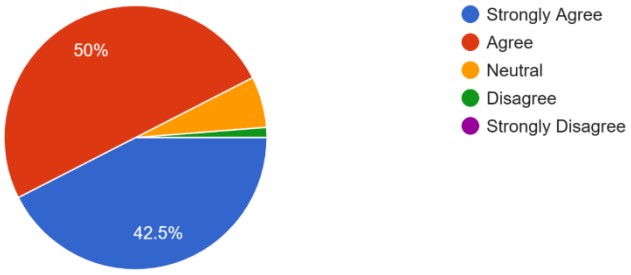
You were able to understand the maximization and minimization of multivariable functions subject to the given constraints on variables.

80 responses



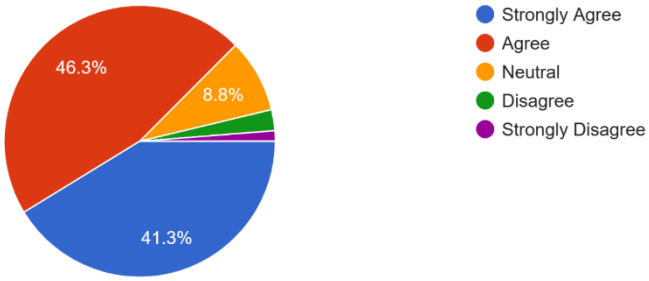
You were able to learn about inter-relationship amongst the line integral, double and triple integral formulations.

80 responses



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

80 responses



Observations:

From the given responses, it is observed that around 85-95 % 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 82.5 % of students had more than 67% of attendance.

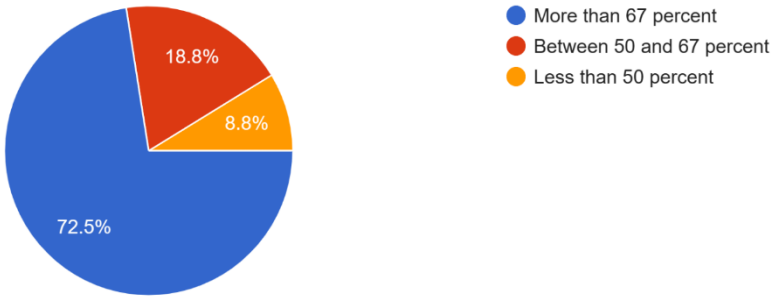
Action Taken:

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

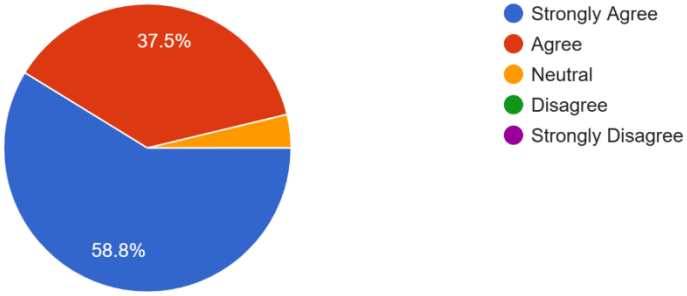
Percentage of Classes Attended

80 responses



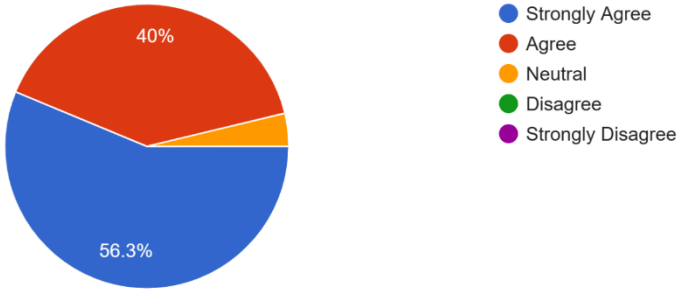
You were able to create and typeset a LaTeX document.

80 responses



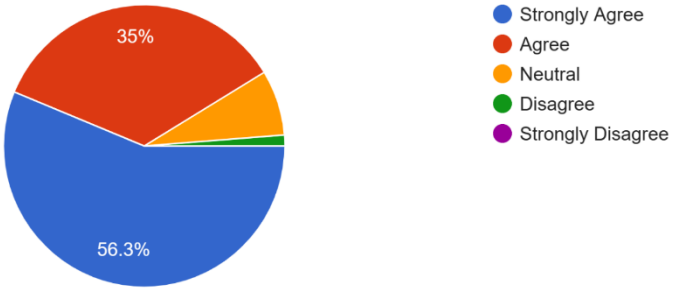
You were able to typeset a mathematical document using LaTex

80 responses



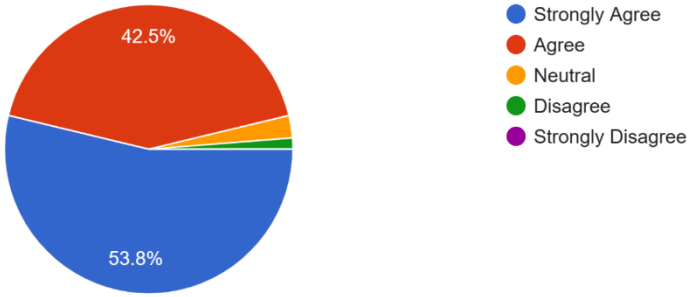
You were able to learn about pictures and graphics in LaTex.

80 responses



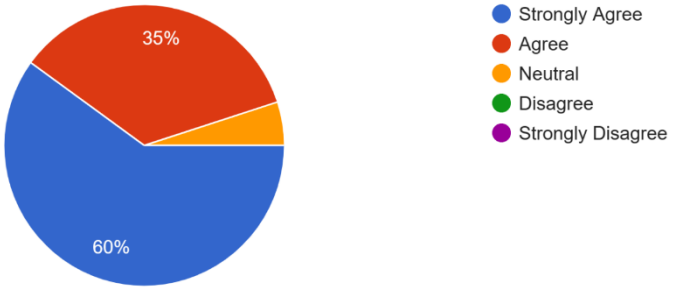
You were able to create beamer presentations.

80 responses



You were able to create web page using HTML

80 responses



Observations:

From the given responses, it is observed that more than 90% 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 72.5% of students had more than 67% of attendance.

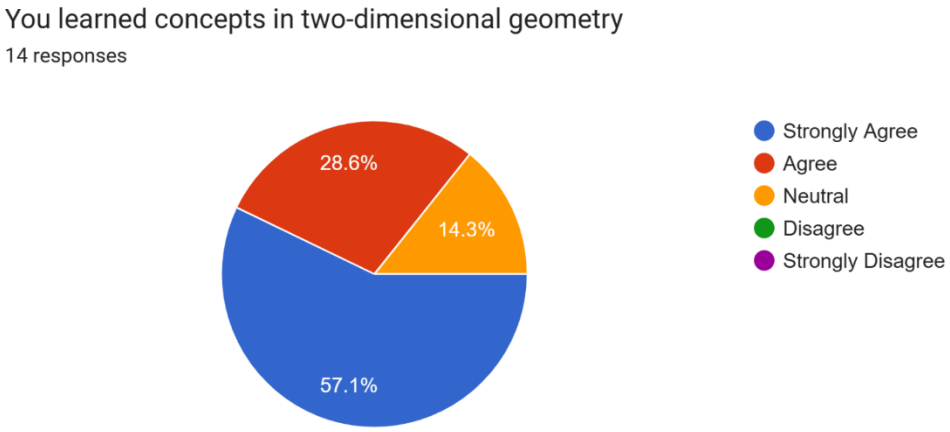
Action Taken:

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

Program: B.A. Prog

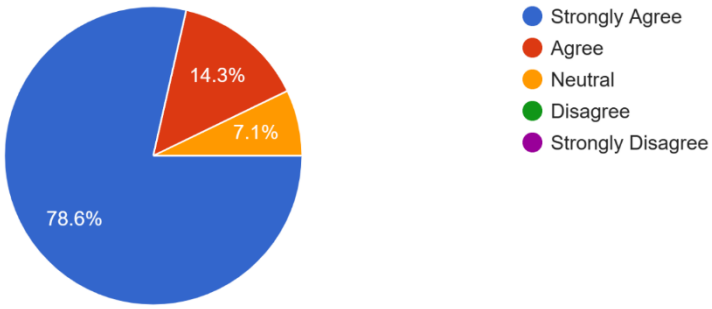
Semester: 3

Paper Name: Analytic Geometry and Applied Algebra



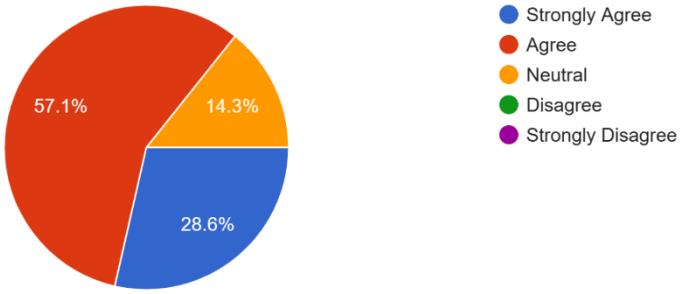
You were able to identify and sketch conics namely, ellipse, parabola and hyperbola.

14 responses



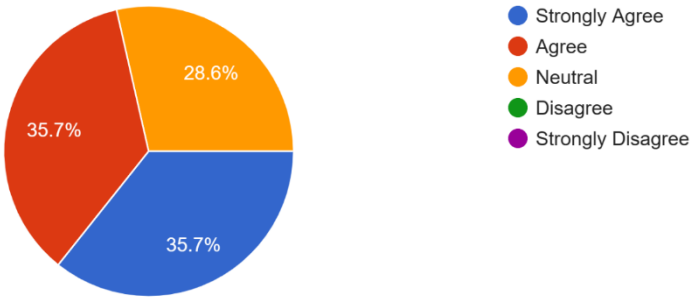
You learned about three-dimensional objects such as spheres, conicoids, straight lines and planes using vectors.

14 responses



You understood various applications of algebra in design of experiments, modelling ofmatching jobs, checking spellings, network reliability and scheduling of meetings.

14 responses



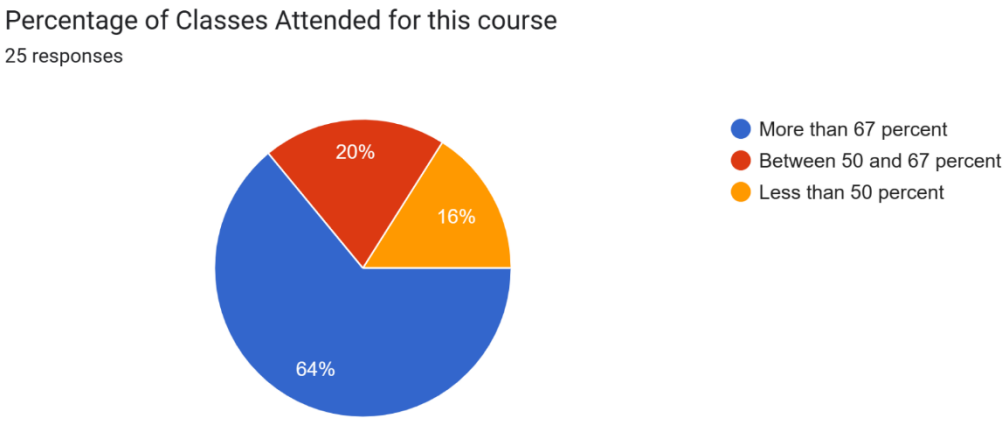
Observations: From the given responses, it is observed that around 70-90 % of students strongly agreed or agreed that they were able to learn concepts in two-dimensional geometry and identify and sketch conics namely, ellipse, parabola and hyperbola. They learned about three-dimensional objects such 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 71.4% 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.

Program: B.A. Prog

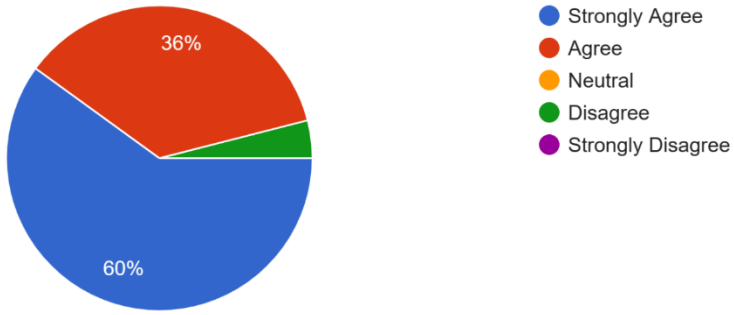
Semester: 3

Paper Name: GE 3-Linear Programming and Game Theory



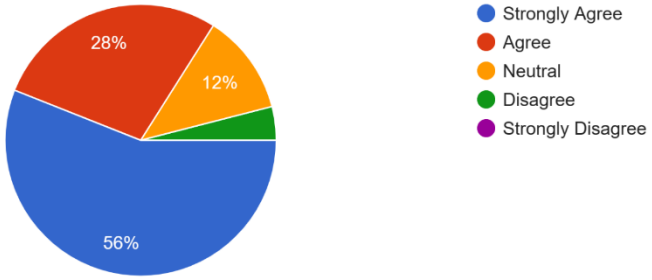
You Learned about the simplex method used to find optimal solutions of linear optimization problems subject to certain constraints.

25 responses



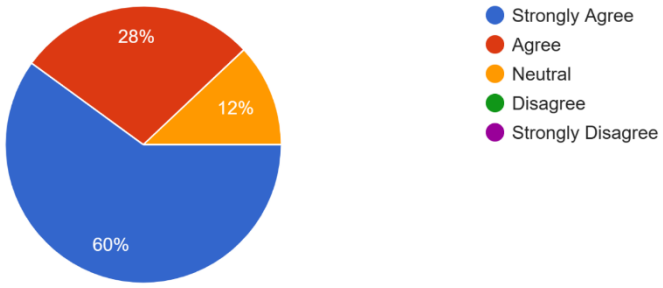
You were able to write the dual of a linear programming problem.

25 responses



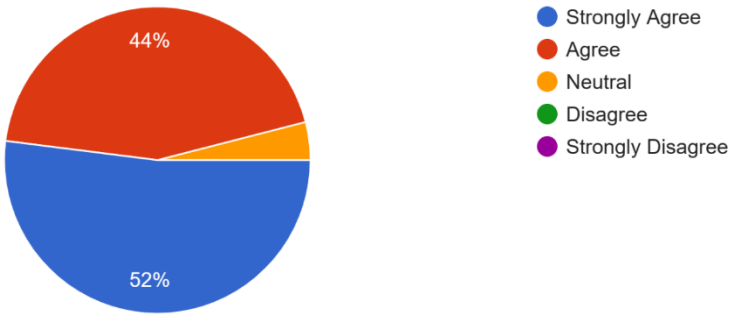
You were able to solve the transportation and assignment problems.

25 responses



You learned about the solution of rectangular games using graphical method and using the solution of a pair of associated prima-dual linear programming problems.

25 responses



Observations: From the given responses, it is observed that around 80-95 % 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 64% 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.

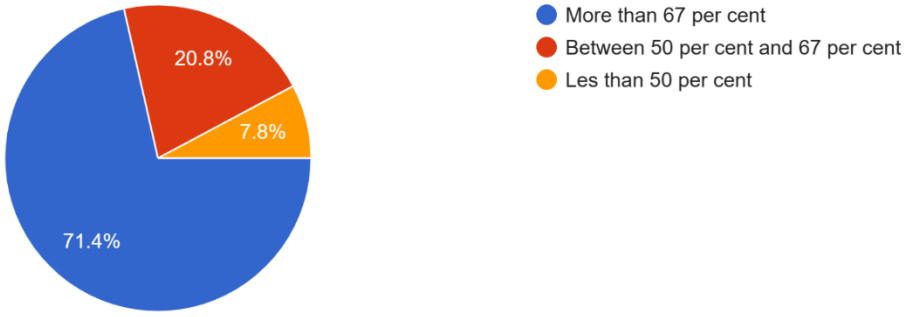
COURSE EXIT SURVEY: Analysis Report
Academic Session: 2022-23

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

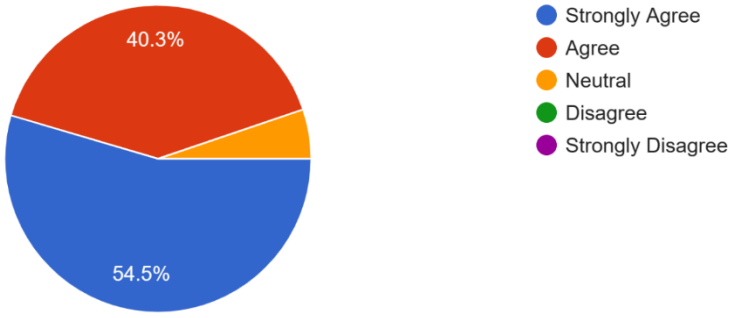
Semester: 4

1. **BMATH408: Partial Differential Equations, UPC: 32351401**

Percentage of classes attended
77 responses

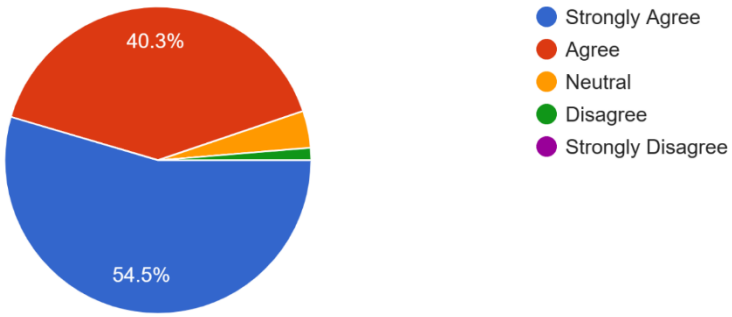


You have learned to Formulate, classify and transform first order PDEs into canonical form.
77 responses



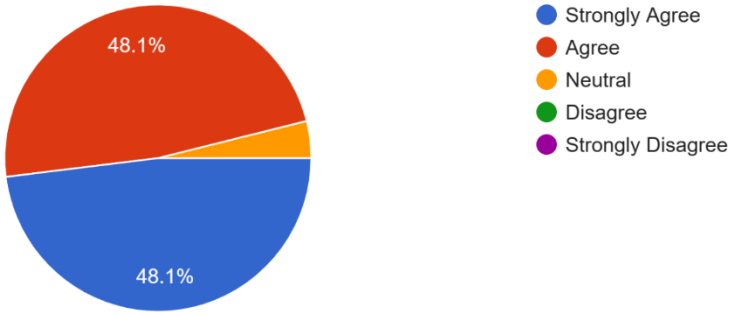
You have learned about method of characteristics and separation of variables to solve first orderPDE's.

77 responses



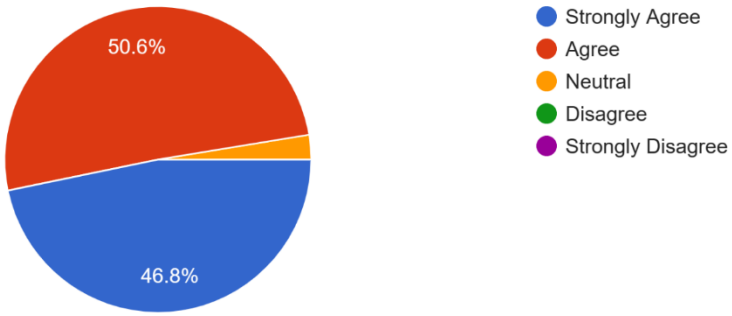
You understood to Classify and solve second order linear PDEs.

77 responses



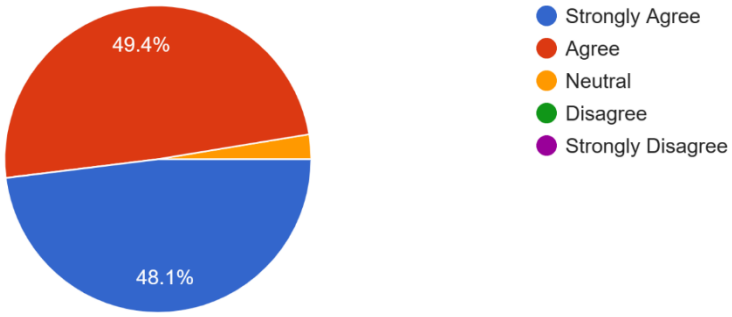
You have learned about Cauchy problem for second order PDE and homogeneous and non-homogeneous wave equation

77 responses



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

77 responses



Observations:

From the given responses, it is observed that around 94.8% of students strongly agreed and agreed that they got an understanding of formulate, classify and transform first order PDEs into canonical form and around 94.8% 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 96.2% of students strongly agreed and agreed that they got an understanding of classify and solve second order linear PDEs. and around 97.4% 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 97.5% 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 71.4% of students had more than 67% of attendance.

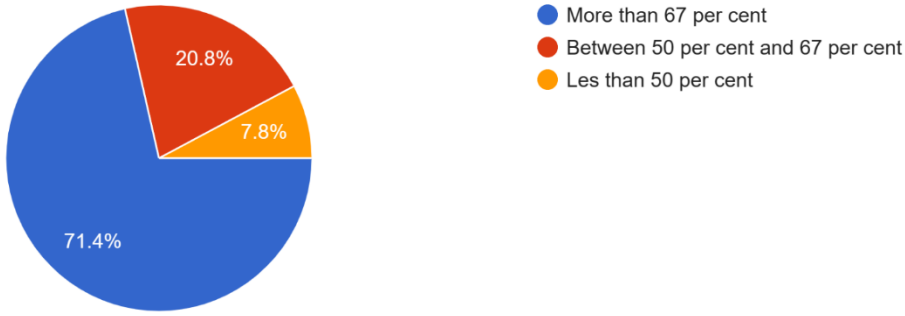
Action Taken:

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

BMATH409: Riemann Integration & Series of Functions, UPC: 32351402

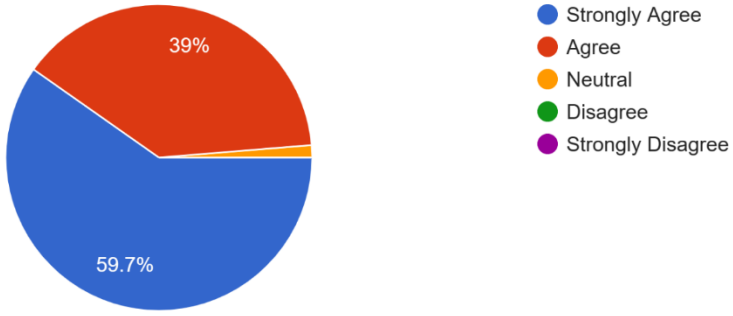
Percentage of classes attended

77 responses



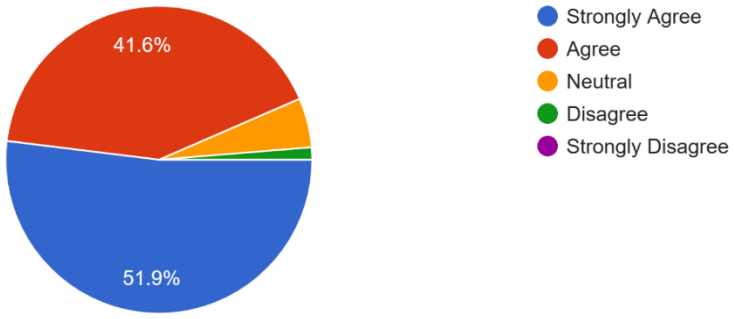
You have learned about some of the classes and properties of Riemann integrable functions, and the applications of the Fundamental theorems of integration.

77 responses



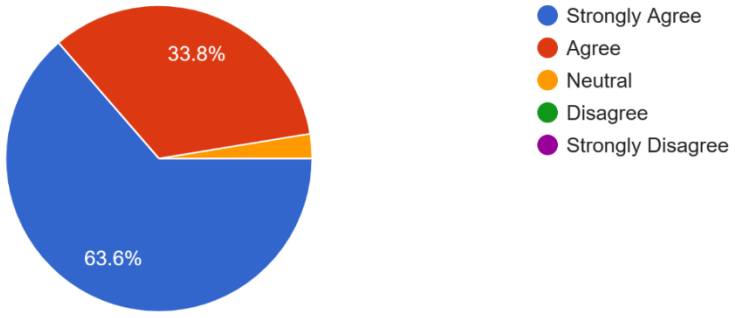
You have learned about improper integrals including, beta and gamma functions

77 responses



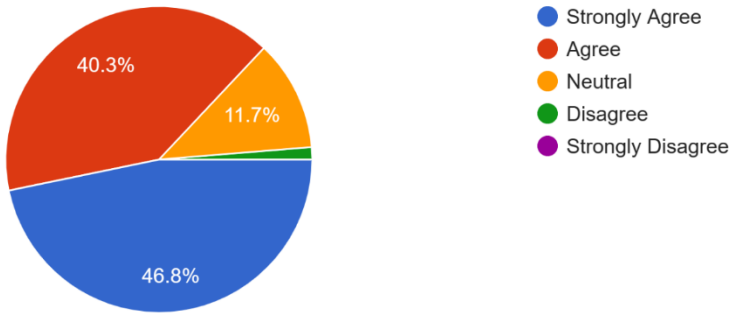
You understood to about Cauchy criterion for uniform convergence and Weierstrass M-test foruniform convergence.

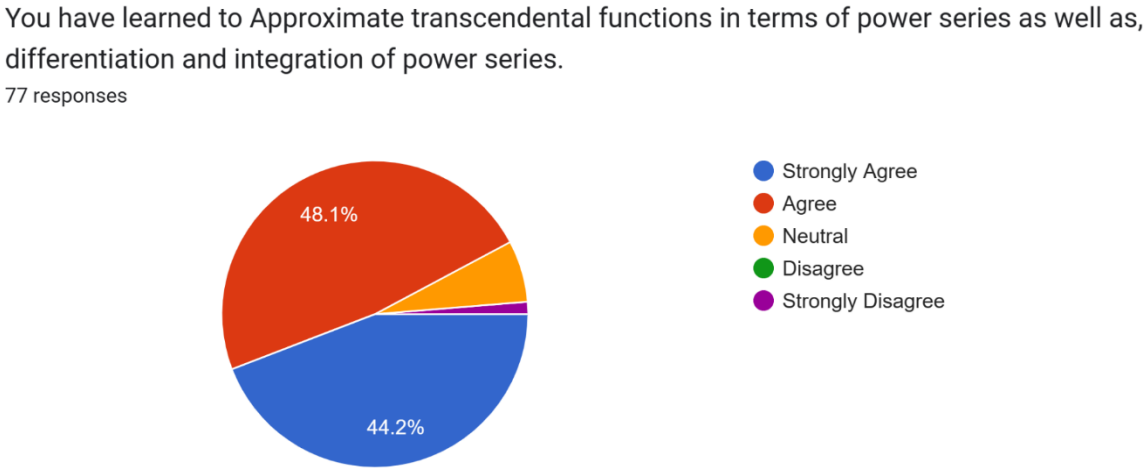
77 responses



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

77 responses





Observations:

From the given responses, it is observed that around 99.6% 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 93.5% of students strongly agreed and agreed that they got an understanding about improper integrals including, beta and gamma function and around 97.4% of students understood to about Cauchy criterion for uniform convergence and Weierstrass M-test for uniform convergence, and around 87.1% 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 92.3% 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 71.4% of students had more than 67% of attendance.

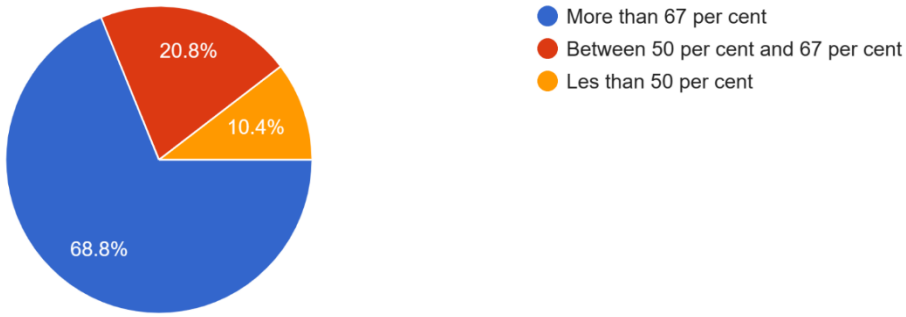
Action Taken:

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. Remedial classes will be taken for topics that students found a little difficult to understand.

BMATH410: Ring Theory & Linear Algebra-I, UPC: 32351403

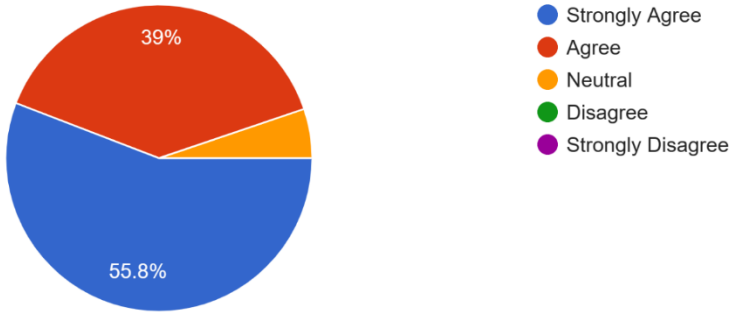
Percentage of classes attended

77 responses



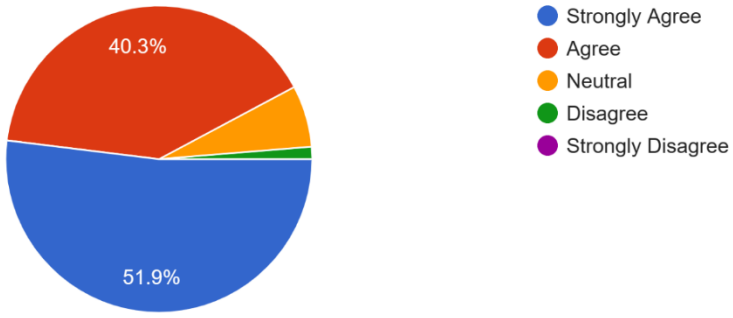
You have learned about the fundamental concept of rings, integral domains and fields.

77 responses



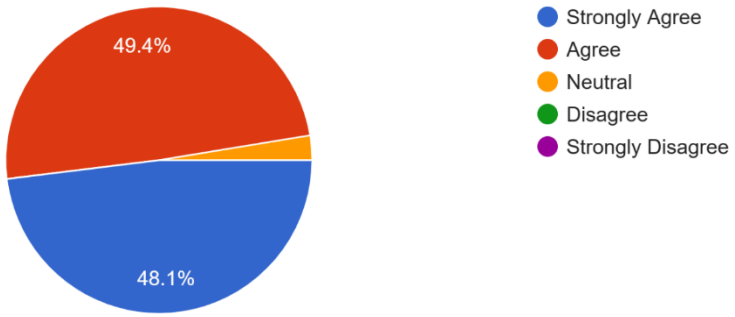
You have learned about ring homomorphisms and isomorphisms theorems of rings.

77 responses



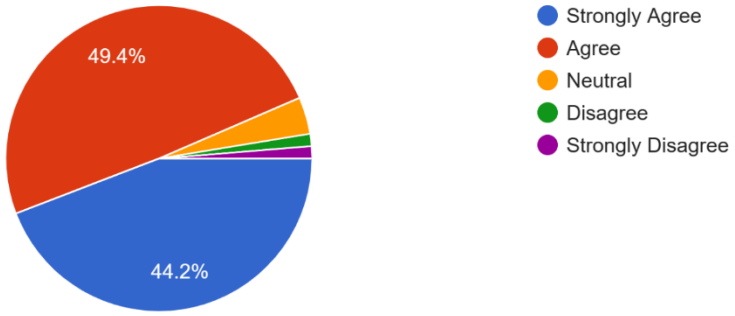
You understood to about the concept of linear independence of vectors over a field, and the dimension of a vector space.

77 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.

77 responses



Observations:

From the given responses, it is observed that around 94.8% of students strongly agreed and agreed that they got an understanding about the fundamental concept of rings, integral domains and fields and around 92.2% of students strongly agreed and agreed that they got an understanding about the ring homomorphisms and isomorphisms theorems of rings. Around 97.5% 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 93.6% of students strongly agreed and agreed that

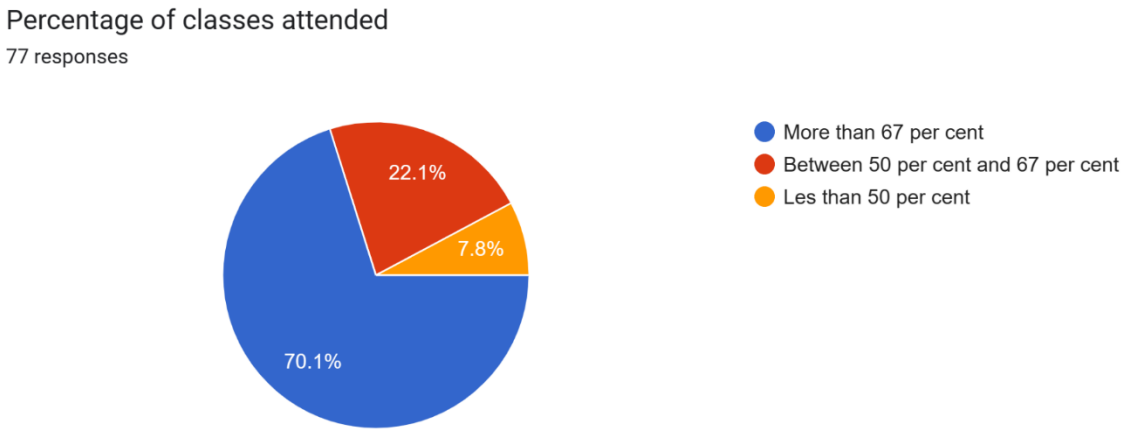
they got an understanding the concept about the Basic concepts of linear transformations, dimension theorem, matrix representation of a linear transformation, and the change of coordinate matrix.

It is also observed that students had keen interest in the paper as 68.8% of students had more than 67% of attendance.

Action Taken:

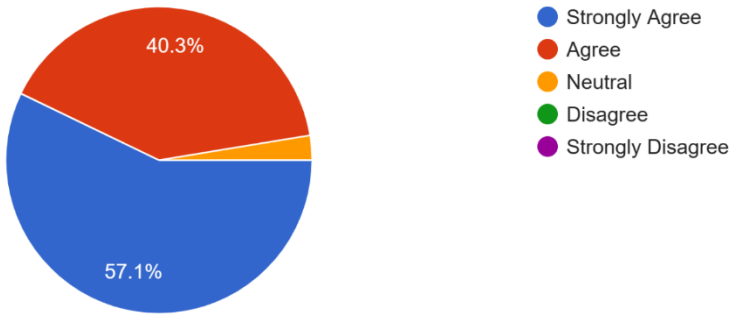
For the moderate responses, topic will be discussed more with the students in tutorials. For the weak students, remedial classes will be held to discuss important topics and questions with them. The topic of representation of a linear code by matrices should be explained by an innovative and practical 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.

SEC-2: Computer Algebra Systems and Related Software, UPC: 32353401



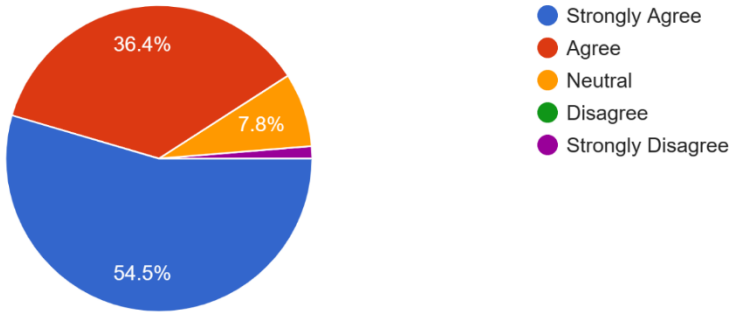
You have learned to Use of computer algebra systems (Mathematica/MATLAB/Maxima/Maple etc.) as a calculator, for plotting functions and animations

77 responses



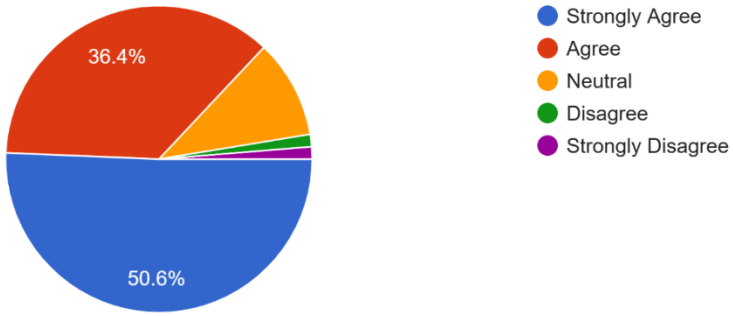
You have learned to Use of CAS for various applications of matrices such as solving system of equations and finding eigenvalues and eigenvectors.

77 responses



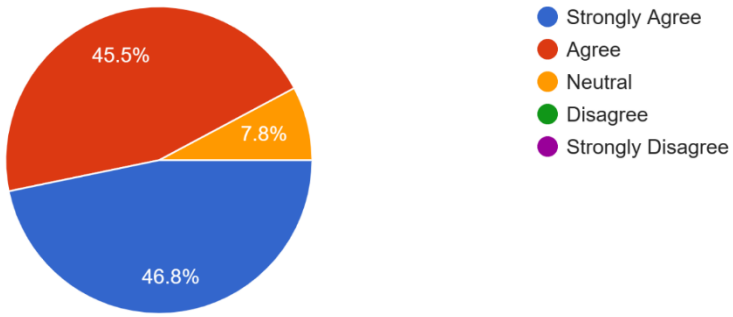
You understood to Analyze, test, and interpret technical arguments on the basis of geometry.

77 responses



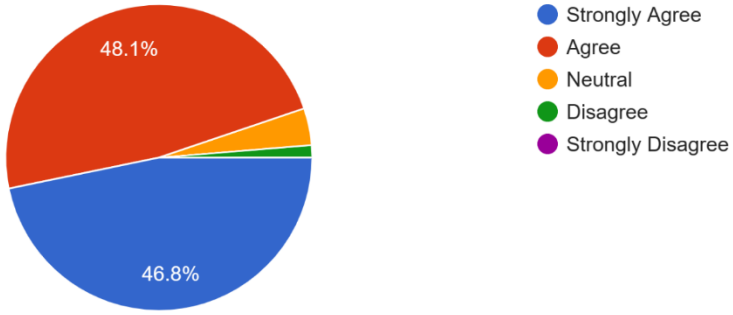
You have learned the use of R in summary calculation, pictorial representation of data and exploring relationship between data

77 responses



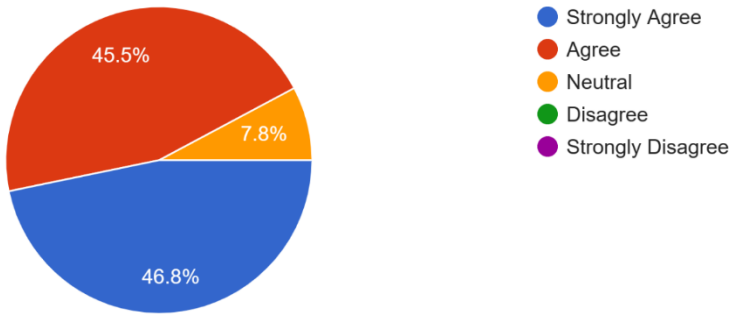
You have learned the use of the statistical software R as calculator and learn to read and get data into R.

77 responses



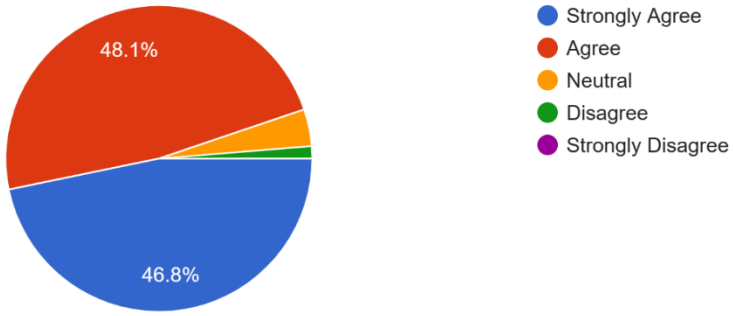
You have learned the use of R in summary calculation, pictorial representation of data and exploring relationship between data

77 responses



You have learned the use of the statistical software R as calculator and learn to read and get data into R.

77 responses



Observations:

From the given responses, it is observed that around 97.4% 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, 90.9% have learned to Use of CAS for various applications of matrices such as solving system of equations and finding eigenvalues and eigenvectors, 87.0% understood to Analyze, test, and interpret technical arguments on the basis of geometry, 92.3% have learned the use of R in summary calculation, pictorial representation of data and exploring relationship between data, 94.9% 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 70.1% of students had more than 67% of attendance.

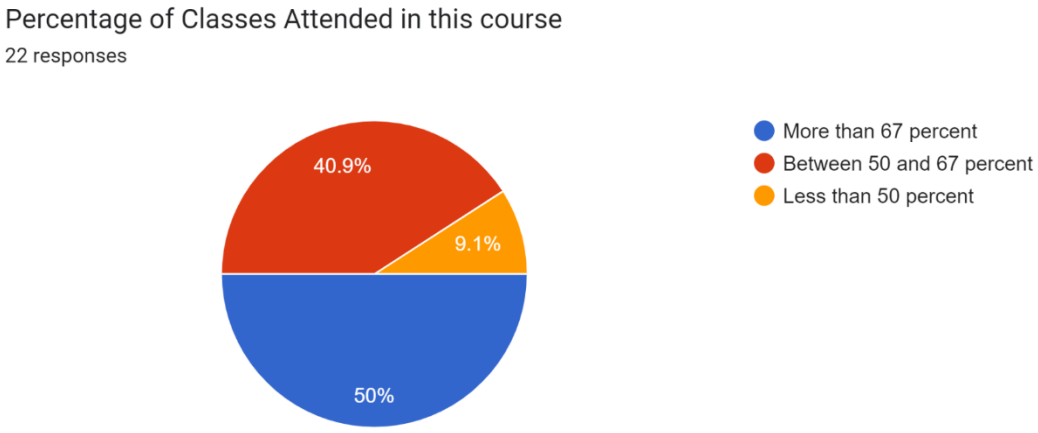
Action Taken

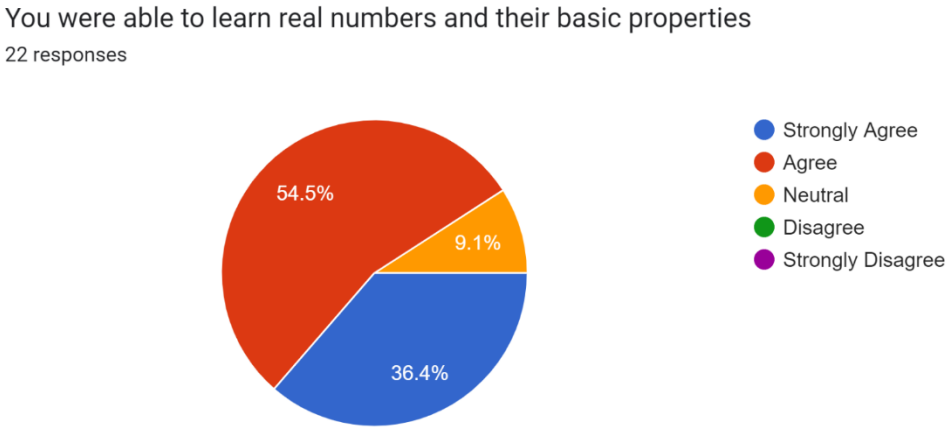
The response to this paper has been encouraging. More efforts will be made to keep students intrigued.

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

Semester: 4

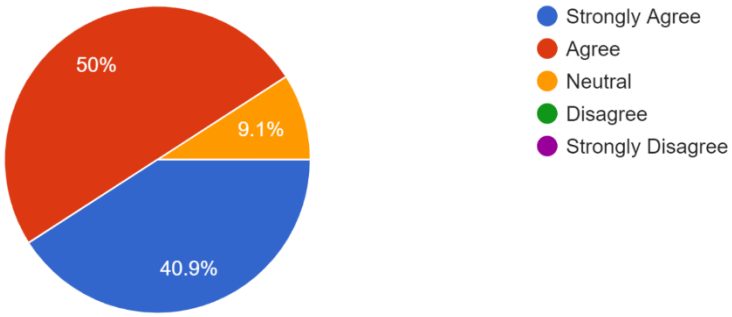
GE-4-Elements of Analysis





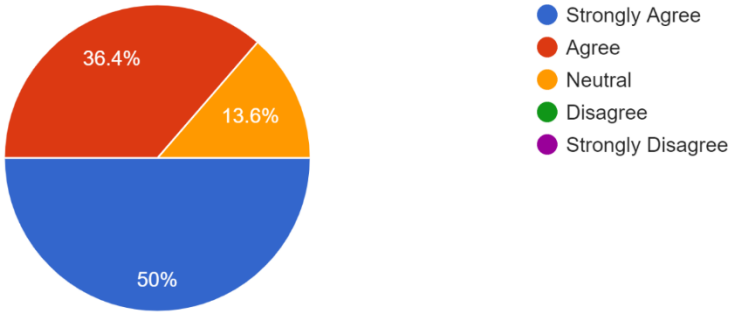
You were able to be familiar with convergent and Cauchy sequences.

22 responses



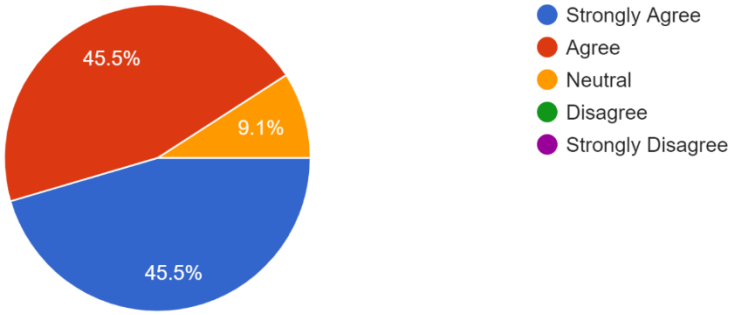
You learned about the test of convergence and divergence of infinite series of real numbers

22 responses



You learned about power series expansion of some elementary functions

22 responses



Observations:

From the given responses, it is observed that more than 90 % of students strongly agreed and agreed that they are able to learn real numbers and their basic properties, convergent and Cauchy sequences as well as power series expansion of some elementary functions. More than 86% of students strongly agreed and agreed that they understood the concept of test of convergence and divergence of infinite series of real numbers.

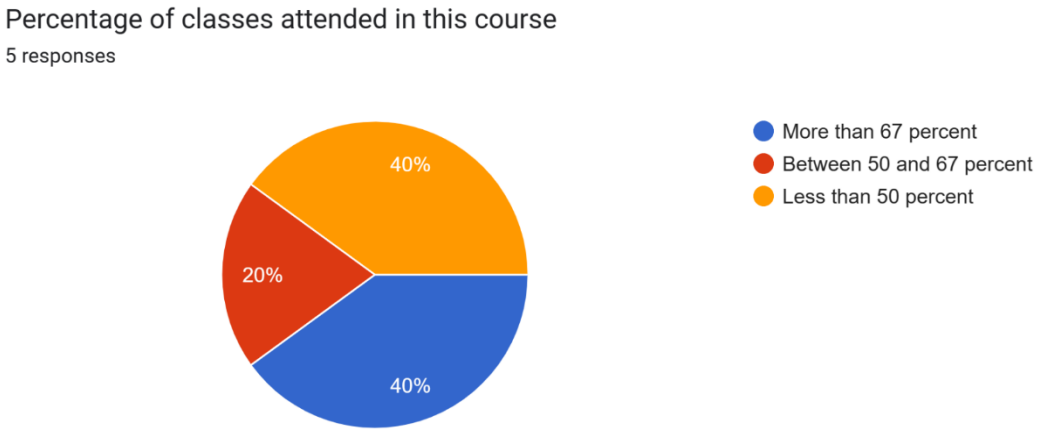
Action Taken:

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.

Department: Mathematics **Program: B.A.(P)**

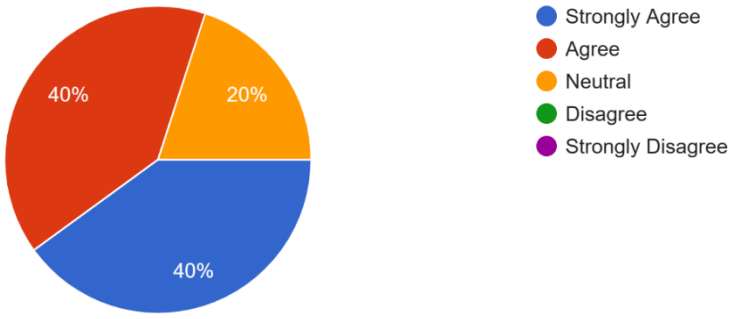
Semester: 4

DSE-4-Analysis



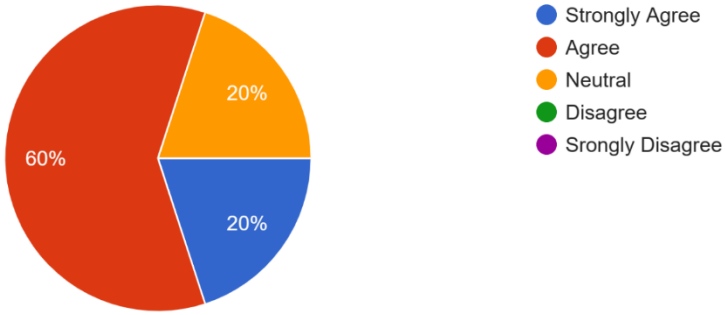
You understood basic properties of the field of real numbers.

5 responses



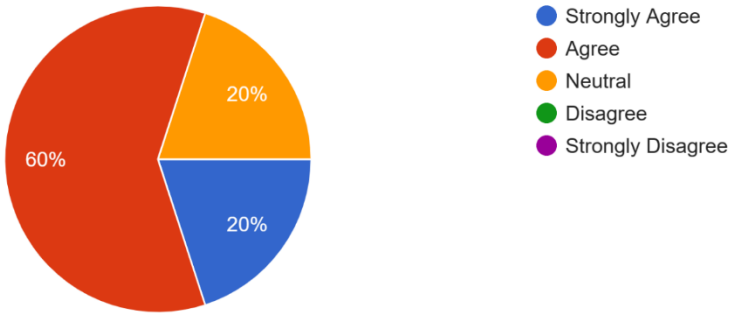
You were able to examine continuity and uniform continuity of functions using sequential criterion.

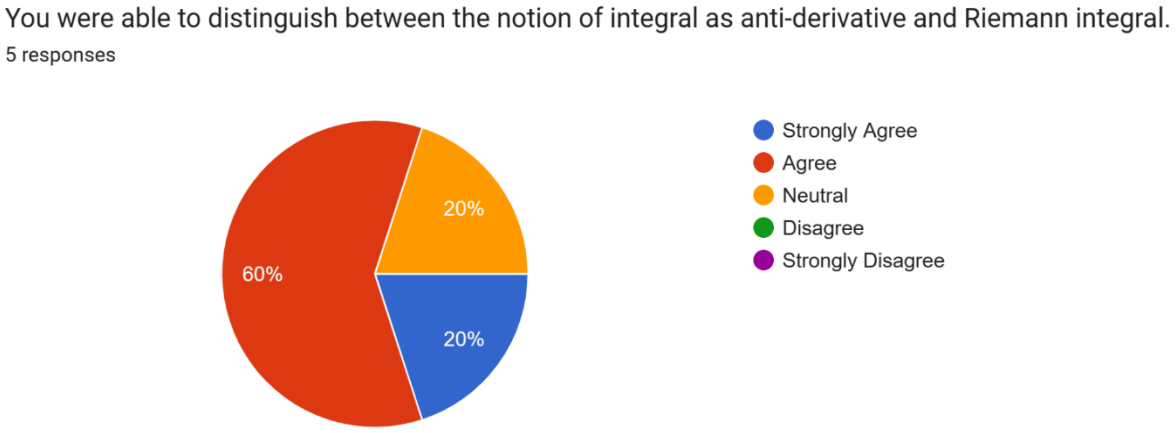
5 responses



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

5 responses





Observations:

From the given responses, it is observed that 80 % of students strongly agreed and agreed that they were able to learn real numbers and their basic properties, continuity and uniform continuity of functions, various tests for convergence of sequences and series. They also able to distinguish between the notion of integral as anti-derivative and Riemann integral.

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.

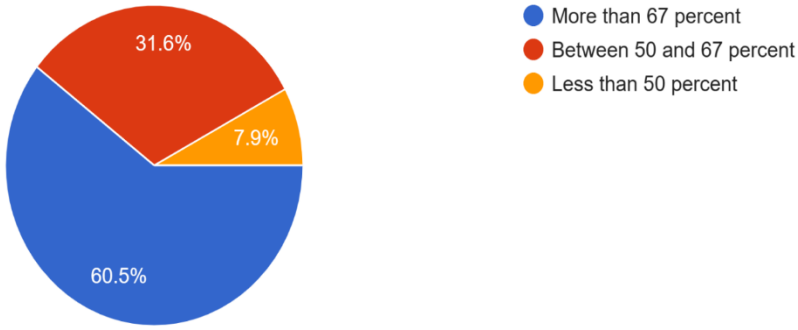
COURSE EXIT SURVEY: Analysis Report
Academic Session: 2022-23

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

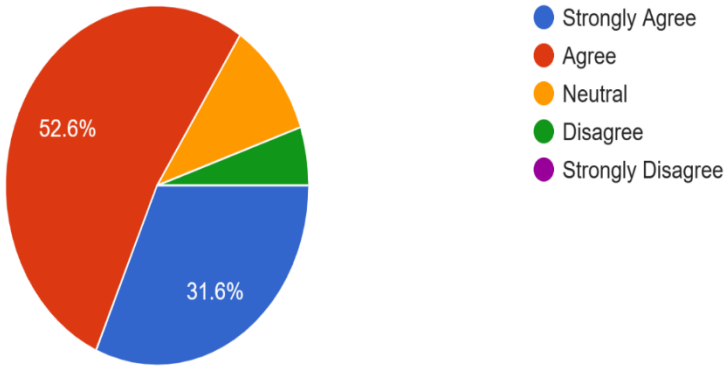
Semester: 5

Paper Name: Metric Spaces (UPC: 32351501)

Percentage of Classes Attended in this Course.
38 responses

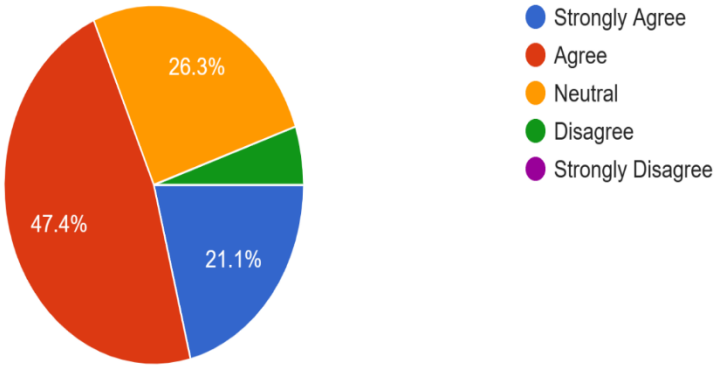


You were able to learn various natural and abstract formulations of distance on the sets of usual or unusual entities. Become aware one such formulations leading to metric spaces.
38 responses



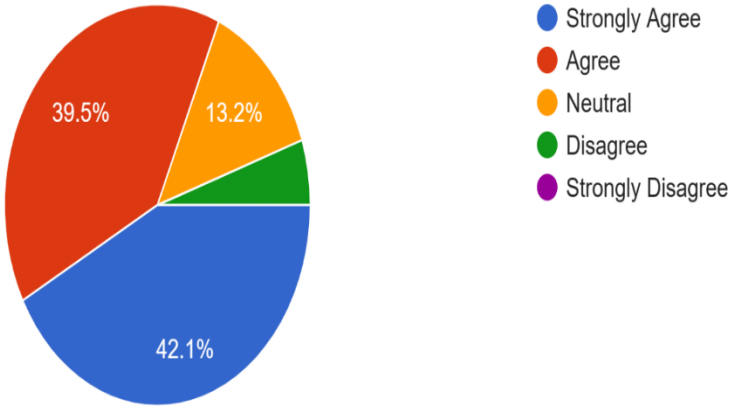
You were able to analyze how a theory advances from a particular frame to a general frame.

38 responses



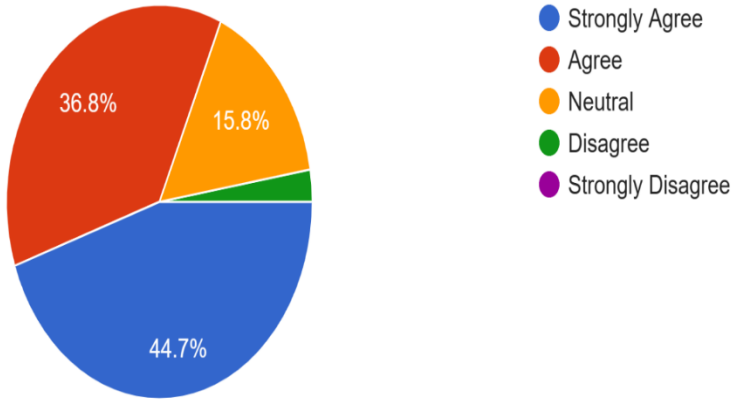
You Appreciated the mathematical understanding of various geometrical concepts, viz. balls or connected sets etc. in an abstract setting.

38 responses



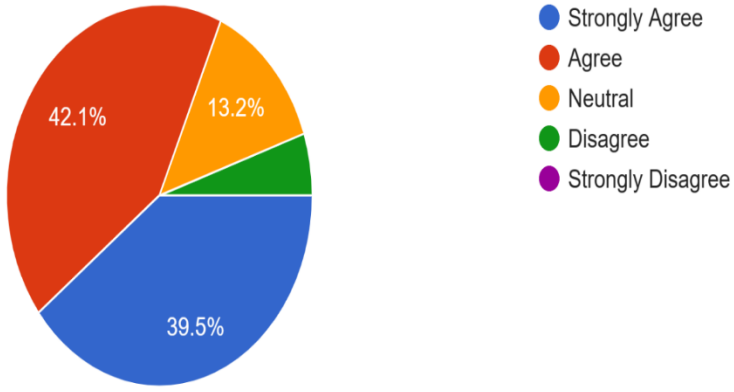
You got to Know about Banach fixed point theorem, whose far-reaching consequences have resulted into an independent branch of study in analysis, known as fixed point theory.

38 responses



You Learned about the two important topological properties, namely connectedness and compactness of metric spaces.

38 responses



Observations:

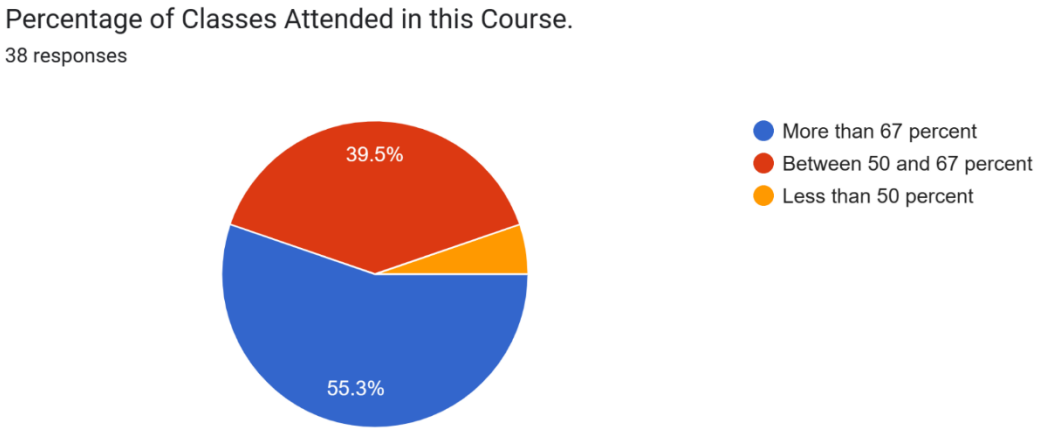
From the given responses, it is observed that around 70% - 80% of students strongly agreed and agreed that they got an understanding of the various natural and abstract formulations of distance on the sets of usual or unusual entities. They were able to analyze how a theory advances from a particular frame to a general frame. The majority of students understood the concept of two important topological properties, namely

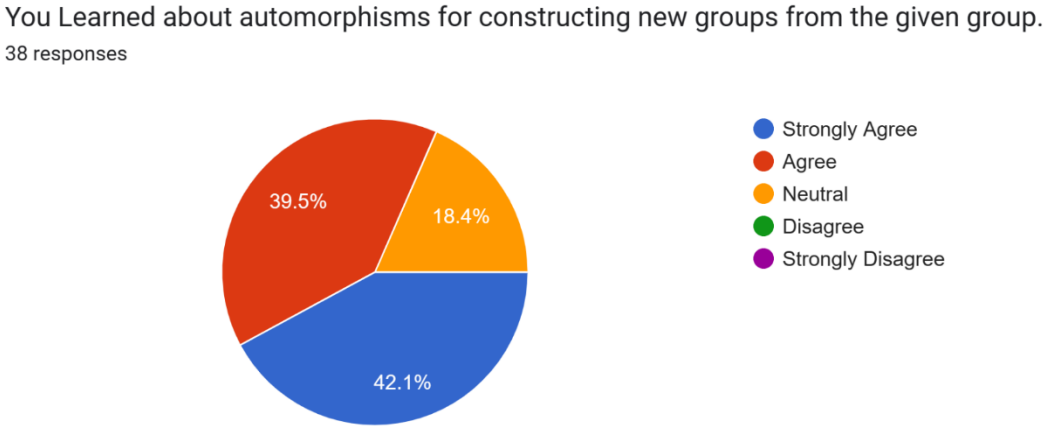
connectedness and compactness of metric spaces. It is also observed that students had an interest in the paper as 60.5% of students had more than 67% of attendance.

Action Taken:

For 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.

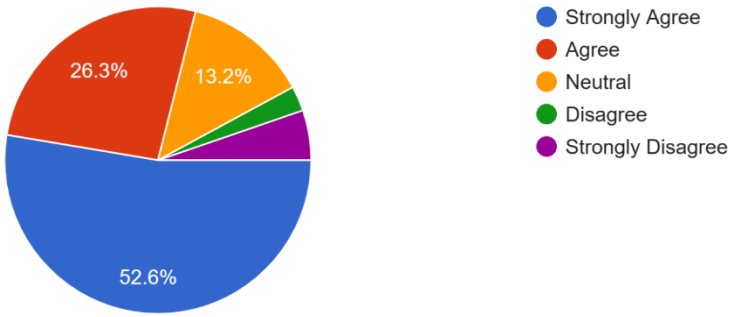
Paper Name: Group Theory-II (UPC: 32351502)





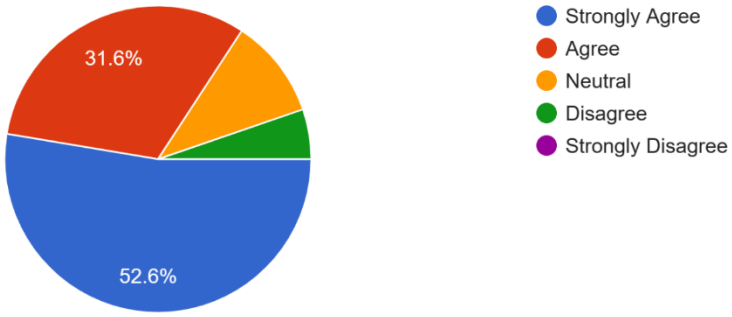
You Learned about the fact that external direct product applies to data security and electric circuits.

38 responses



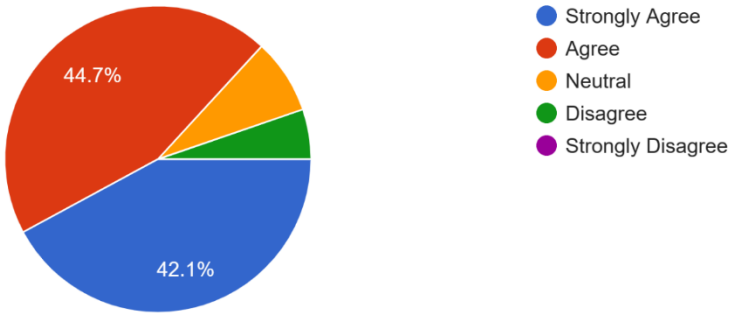
You Understood fundamental theorem of finite abelian groups.

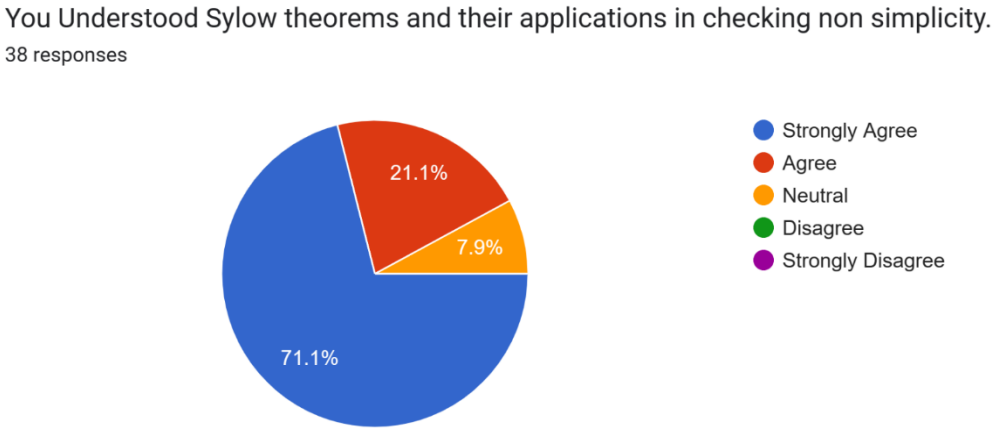
38 responses



You Became familiar with group actions and conjugacy in Sn.

38 responses





Observations:

From the given responses, it is observed that around 70% - 80% 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 55.3% of students had more than 67% of attendance.

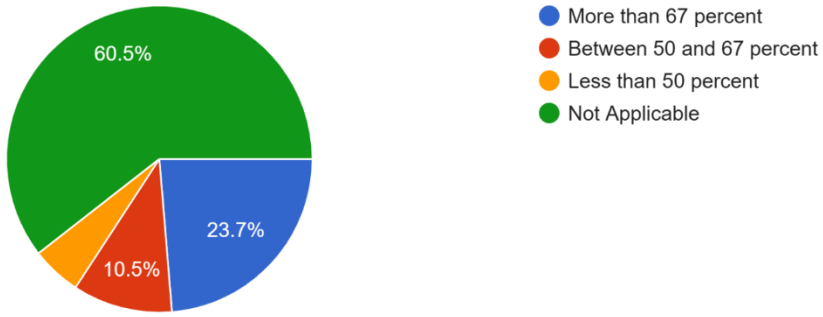
Action Taken:

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 would also be done at regular intervals.

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

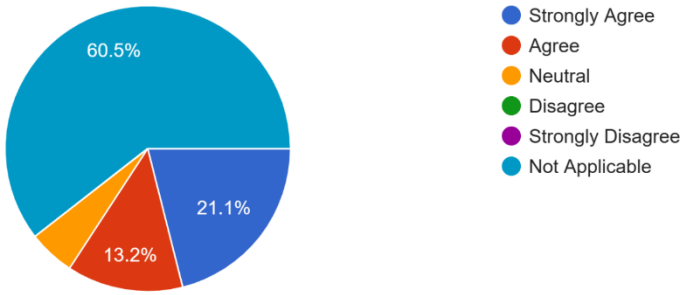
Percentage of Classes Attended in this Course.

38 responses



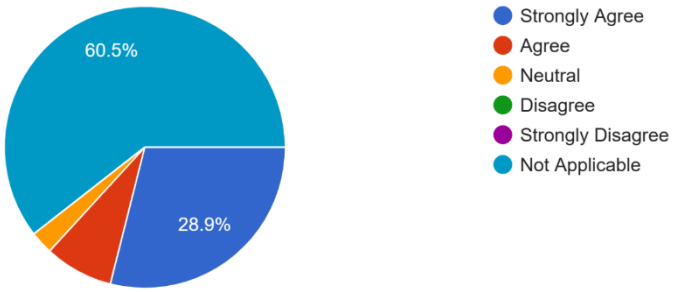
You Learned some numerical methods to find the zeroes of nonlinear functions of a single variable and solution of a system of linear equations, up to a certain given level of precision.

38 responses



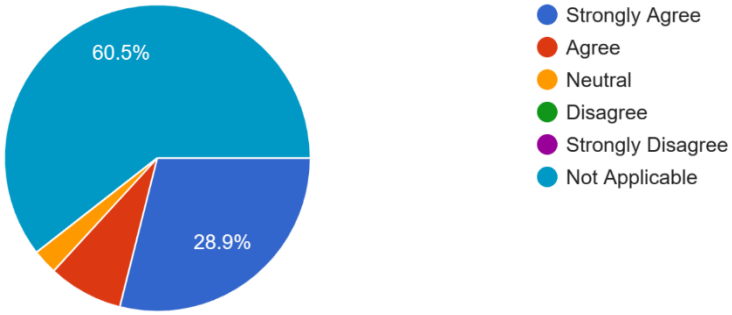
You got to know about methods to solve system of linear equations, such as Gauss–Jacobi, Gauss–Seidel and SOR methods.

38 responses



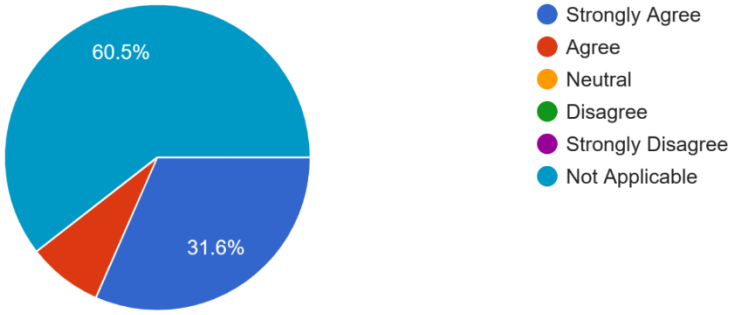
You learned Interpolation techniques to compute the values for a tabulated function at points not in the table.

38 responses



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

38 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 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 60% of students had more than 67% of attendance.

Action Taken:

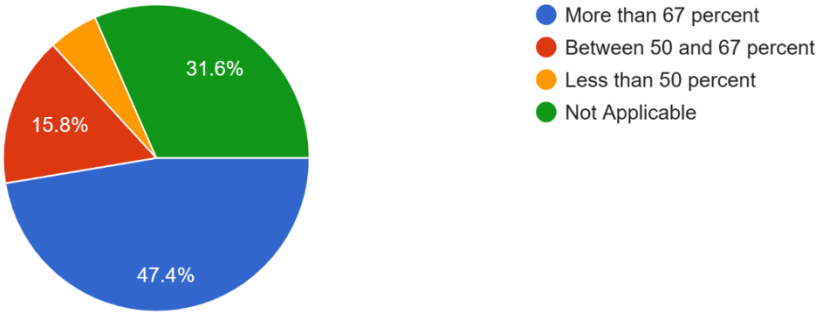
For the moderate responses, topics will be discussed more with the students in tutorials. For the weak students, special classes will be held to discuss important questions with them. Measures will be taken to

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)

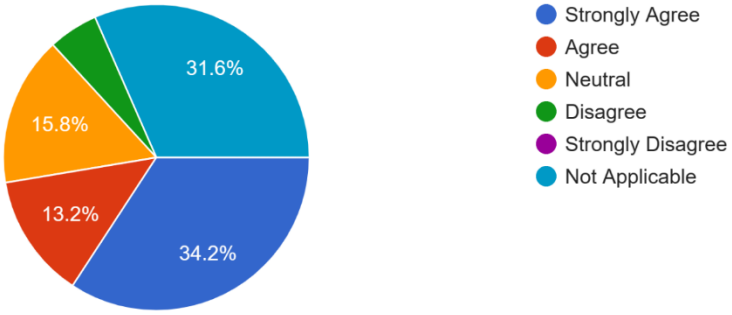
Percentage of Classes attended in this course.

38 responses



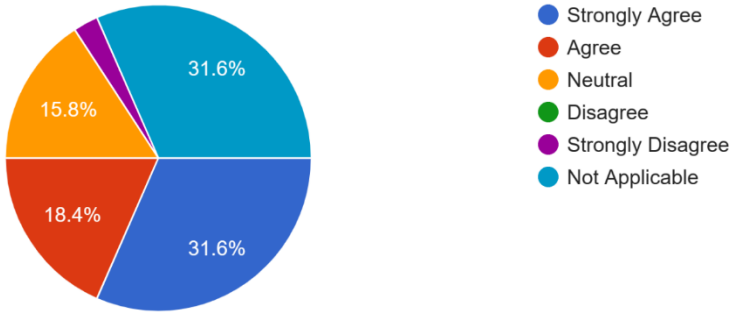
You were able to Understand and apply the programming concepts of C++ which is important to mathematical investigation and problem solving.

38 responses



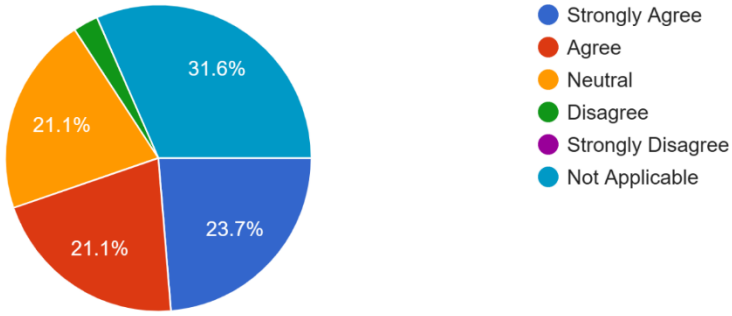
You Learned about structured data-types in C++ and learned about applications in factorization of an integer and understanding Cartesian geometry and Pythagorean triples.

38 responses



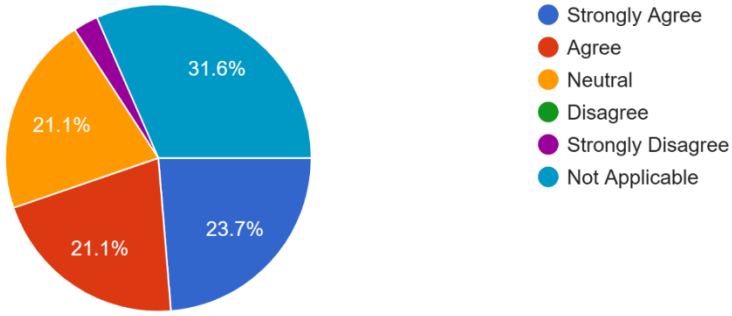
You were able to see use of containers and templates in various applications in algebra.

38 responses



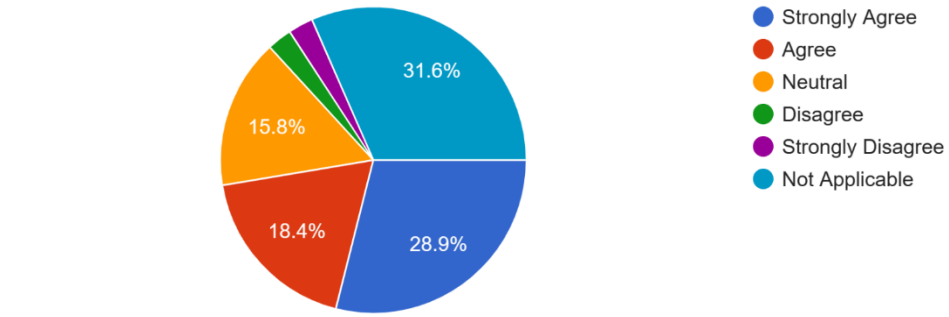
You were able to use mathematical libraries for computational objectives.

38 responses



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

38 responses



Observations:

From the given responses, it is observed that 65%-875% 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 69% of students had more than 67% of attendance.

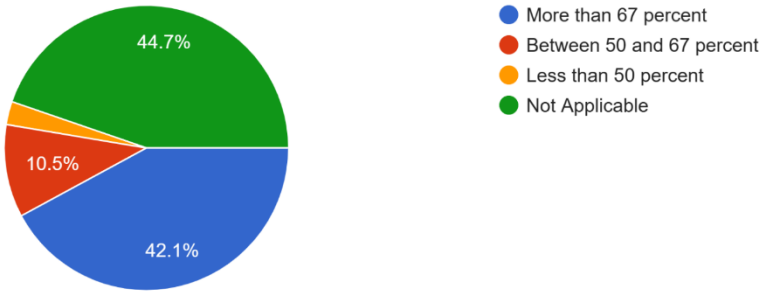
Action Taken:

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)

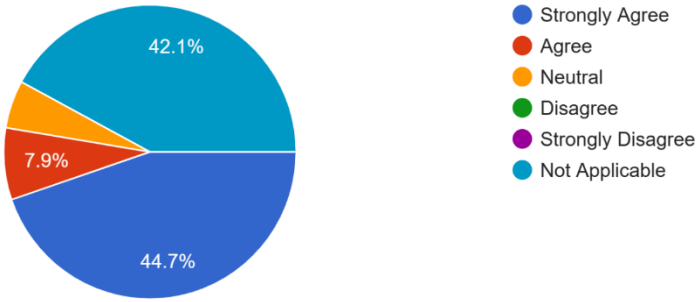
Percentage of Classes Attended in this course

38 responses



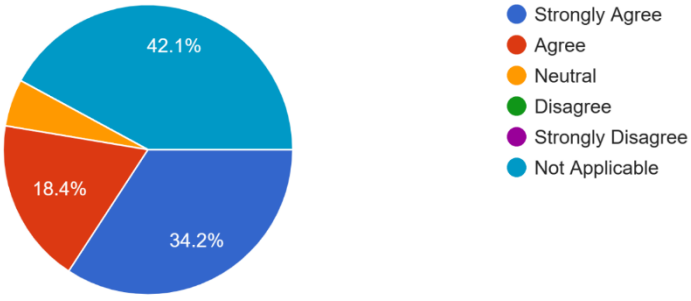
You Learned about probability density and moment generating functions.

38 responses



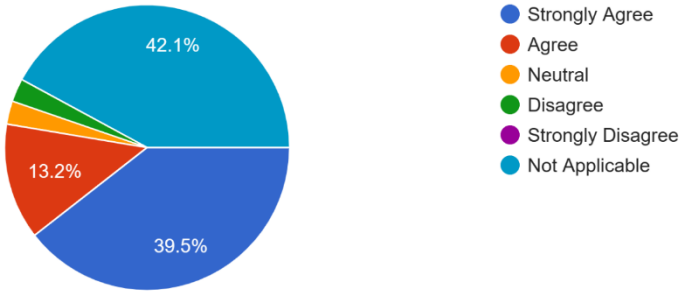
You got to know about various univariate distributions such as Bernoulli, Binomial, Poisson, gamma and exponential distributions.

38 responses



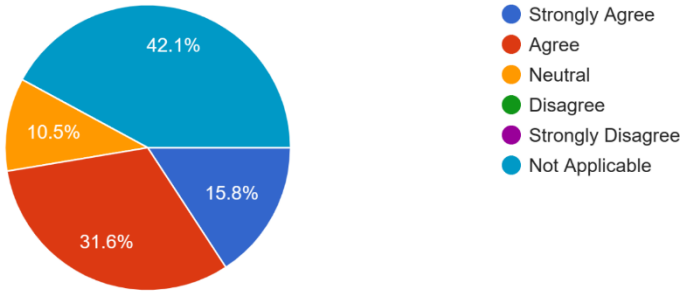
You Learned about distributions to study the joint behavior of two random variables.

38 responses



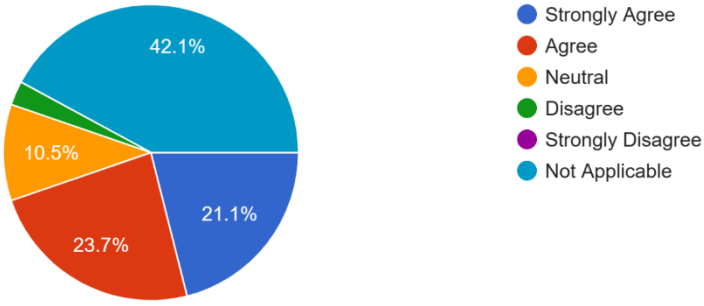
You were able to Measure the scale of association between two variables, and to establish a formulation helping to predict one variable in terms of the other, i.e., correlation and linear regression.

38 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.

38 responses



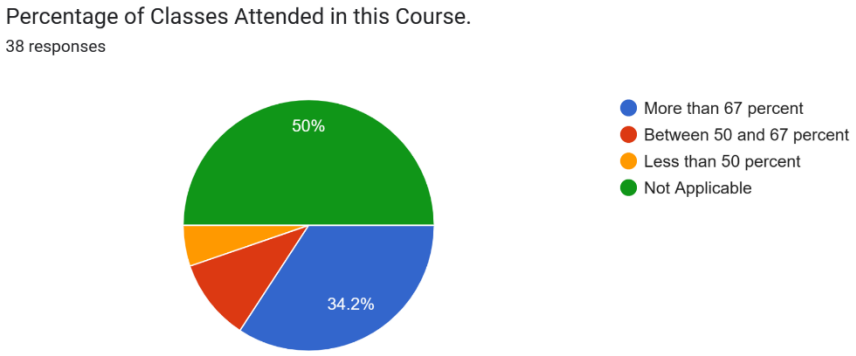
Observations:

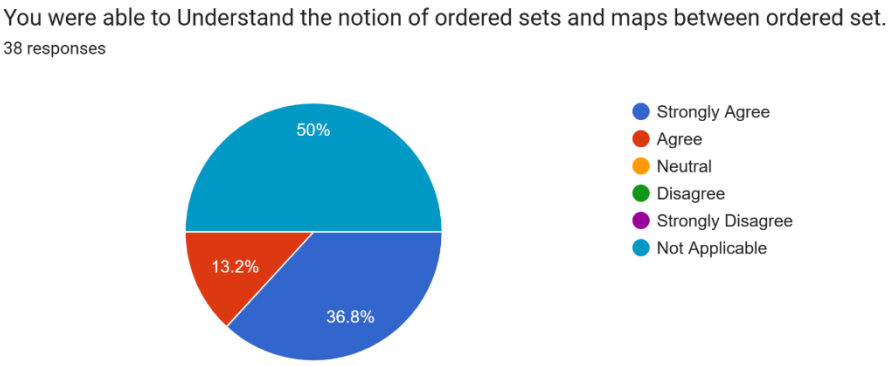
From the given responses, it is observed that more than 85% of students who opted for this course strongly agreed and agreed that they learned about probability density and moment generating functions, various univariate distributions such as Bernoulli, Binomial, Poisson, gamma and exponential distributions 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 76% 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.

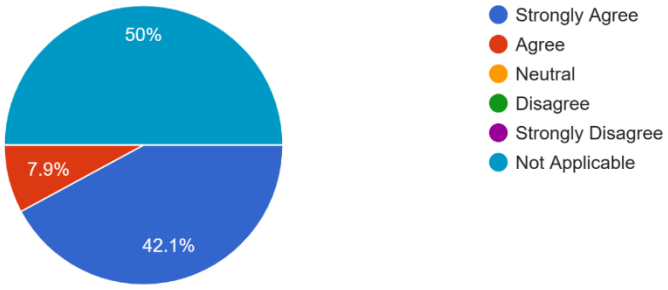
Paper Name: DSE-2 (ii)-Discrete Mathematics (UPC: 32357505)





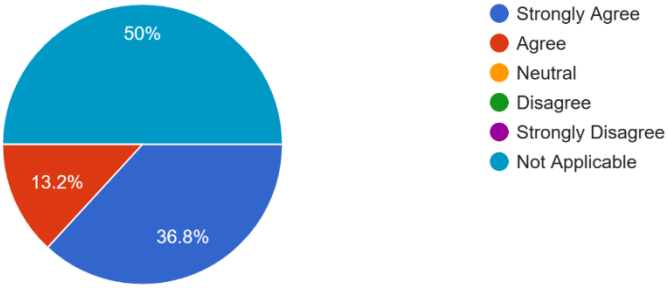
You became familiar with Boolean algebra, Boolean homomorphism, Karnaugh diagrams, switching circuits and their applications.

38 responses



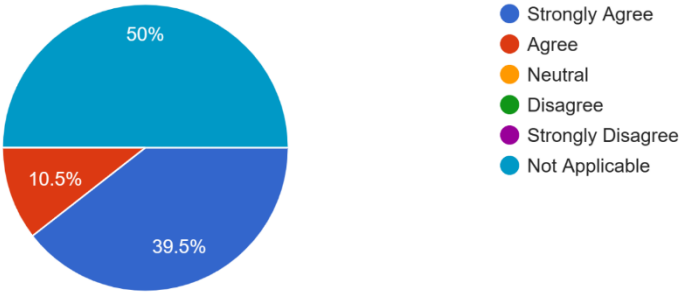
You Learned about lattices, modular and distributive lattices, sublattices and homomorphisms between lattices.

38 responses



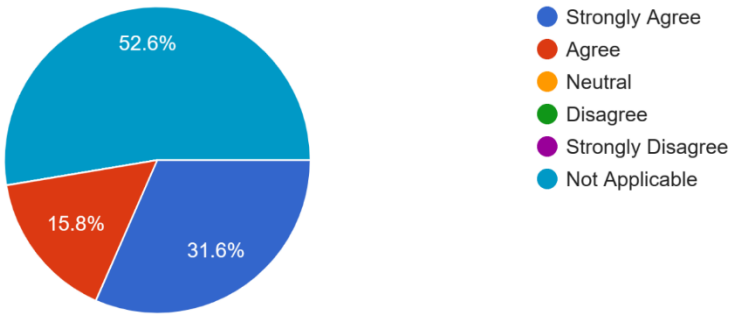
You learned about basics of graph theory, including Eulerian graphs, Hamiltonian graphs.

38 responses



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

38 responses



Observations:

From the given responses, it is observed that 100% of students who opted for this course strongly agreed and agreed that they understood the notion of ordered sets and maps between ordered sets, 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 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. 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.

Program: B.A. Programme III Year

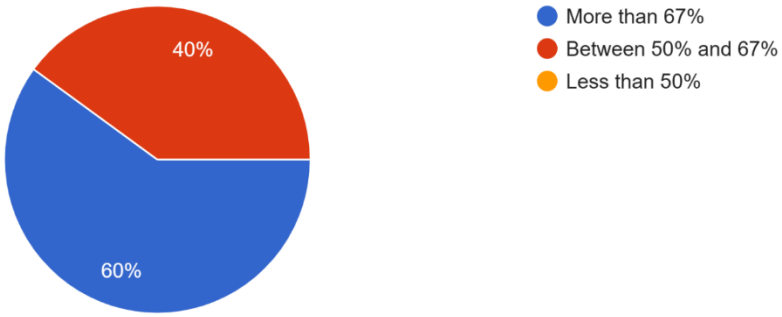
Semester: 5

Paper Name: Statistics

UPC: 62357503

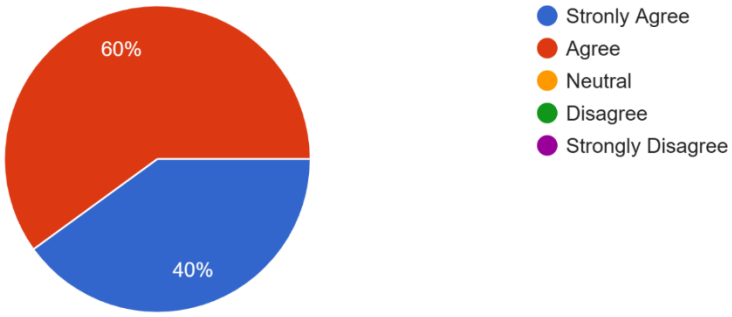
Percentage of Classes Attended for this Course

5 responses



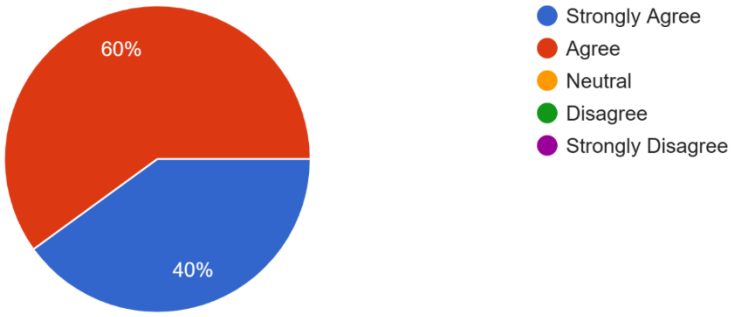
You are able to determine moments and distribution function using mgf.

5 responses



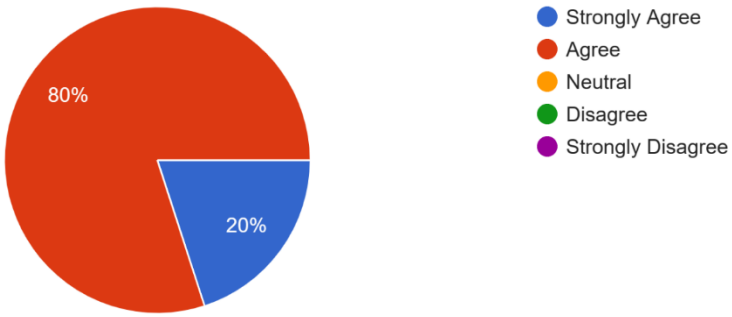
You have learned about various discrete and continuous probability distributions

5 responses



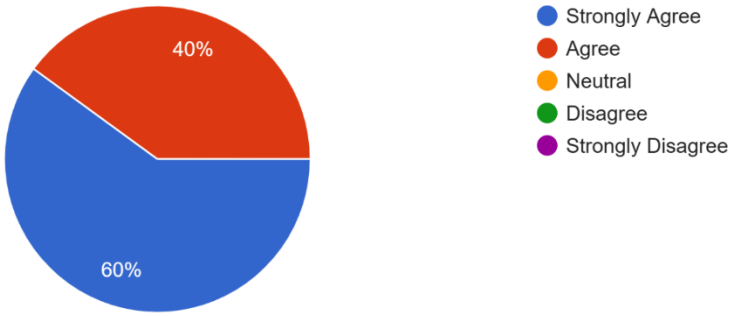
You know about correlation, regression for two variables, weak law of large numbers and central limit theorem.

5 responses



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

5 responses



Observations:

From the given responses, it is observed that more than 100% 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 60% 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.

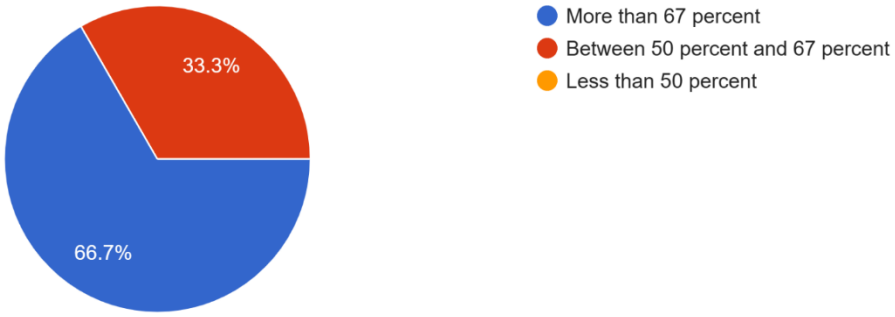
Program: B.A. Prog

Semester: V

Paper Name: GE-General Mathematics – I

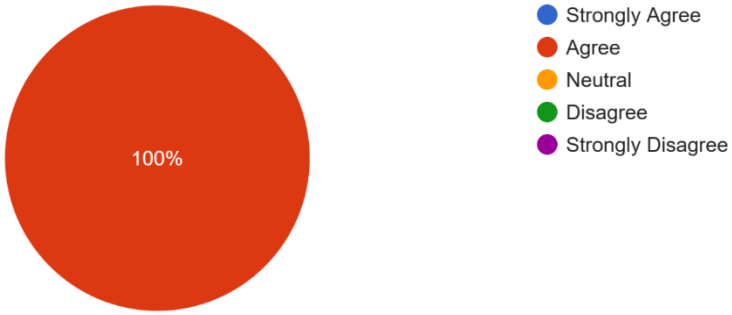
Percentage of Classes Attended

3 responses



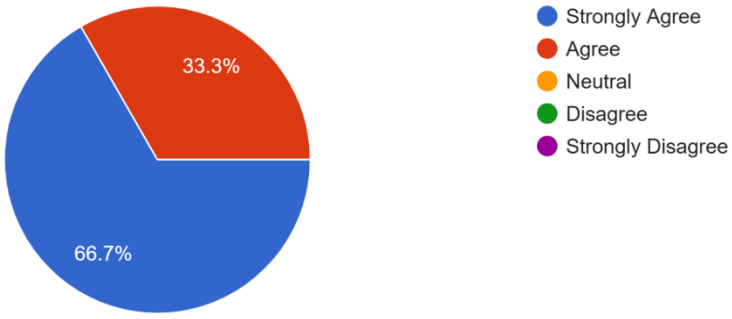
You got to learn about the contributions of the ancient Indian mathematicians in the field of algebra, geometry, trigonometry, calculus and astronomy.

3 responses



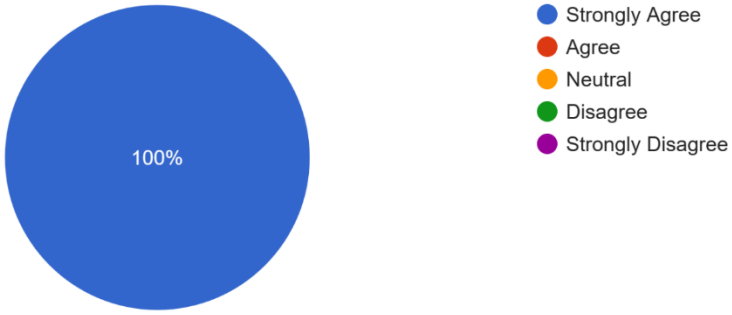
You got to know more about prime numbers, Fermat's last theorem, Latin and magic squares.

3 responses



You were able to understand the various types of matrices, operations of matrices, and Cramer's rule to solve a system of linear equations.

3 responses



Observations: From the given responses, it is observed that around 100 % 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 66.7% 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: 2022-23

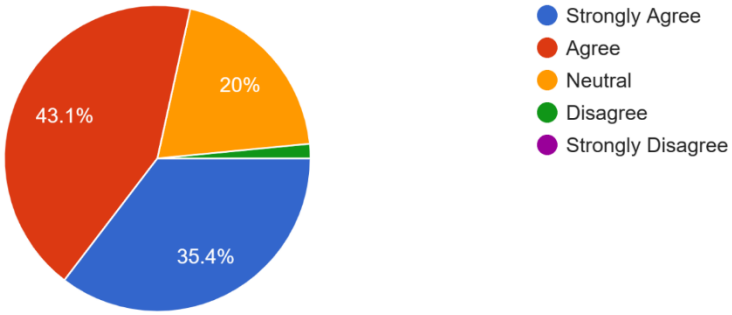
Department: Mathematics **Program: B.Sc.(H) Mathematics**

Semester: 6

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

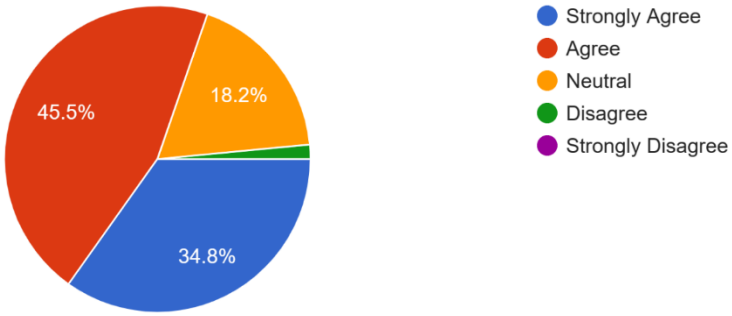
The course taught you the basic ideas of analysis for complex functions in complex variables with visualization through relevant practicals.

65 responses



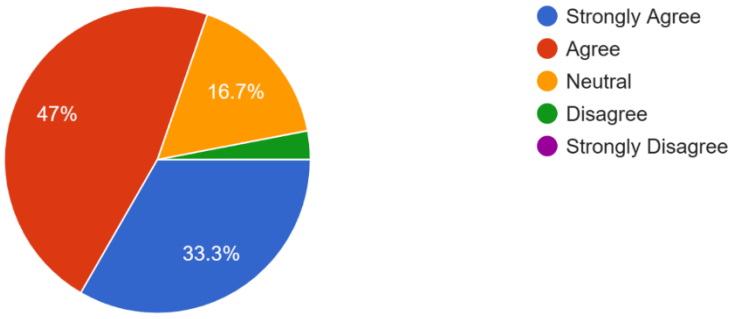
The course helped you to learn the significance of differentiability of complex functions leading to the understanding of Cauchy–Riemann equations.

66 responses



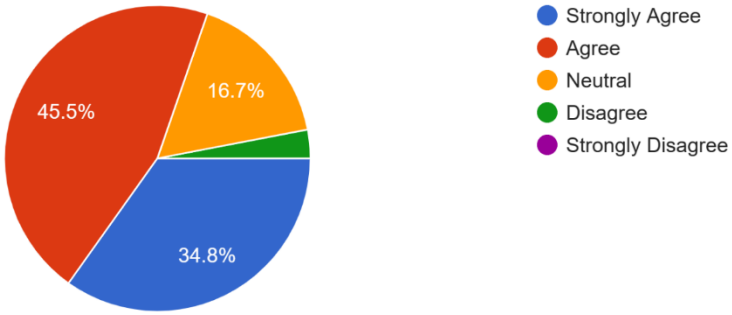
The course helped you to understand the elementary functions and valuate the contour integrals.

66 responses



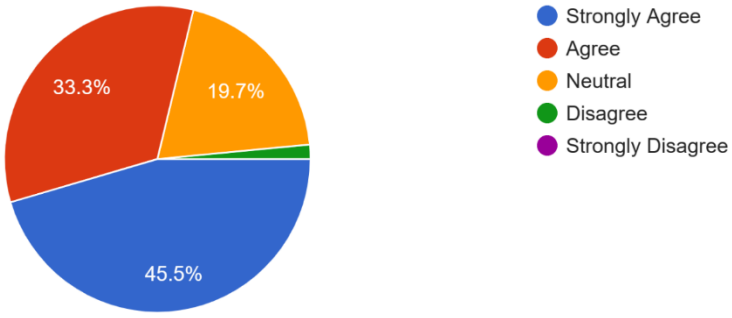
The course helped you to understand the role of Cauchy–Goursat theorem and the Cauchy integral formula.

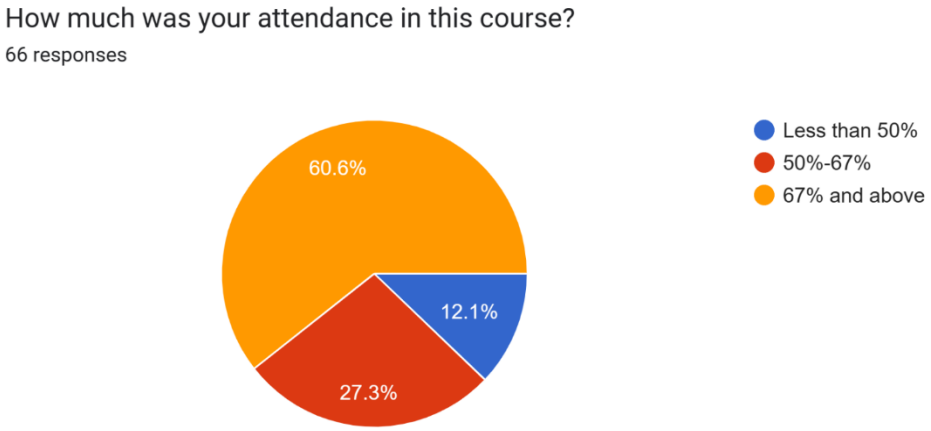
66 responses



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

66 responses





Observations:

From the given responses, it is observed that more than 78% 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 60.6% of students had more than 67% of attendance.

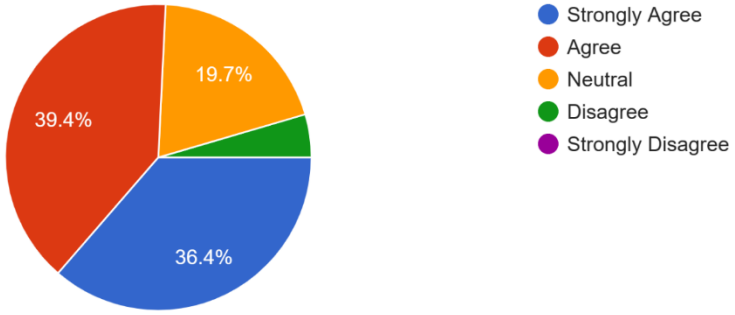
Action Taken:

For the moderate responses, topics will be discussed more with the students in tutorials. For the weak students, remedial 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)

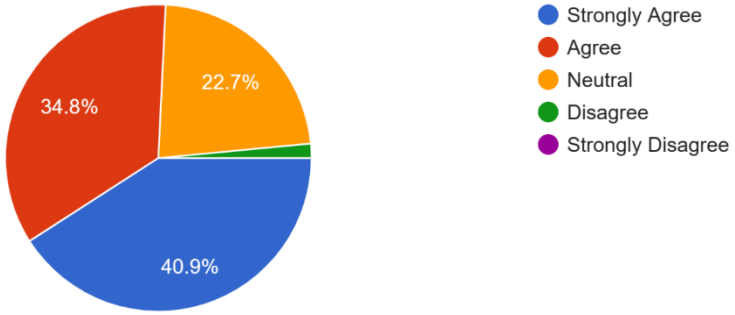
The course helped you to appreciate the significance of unique factorization in rings and integral domains.

66 responses



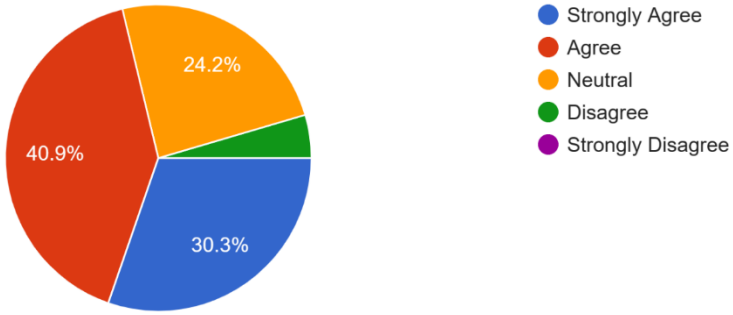
The course helped you to compute the characteristic polynomial, eigenvalues, eigenvectors, eigenspaces, as well as the geometric and the algebraic multiplicities of an eigenvalue

66 responses



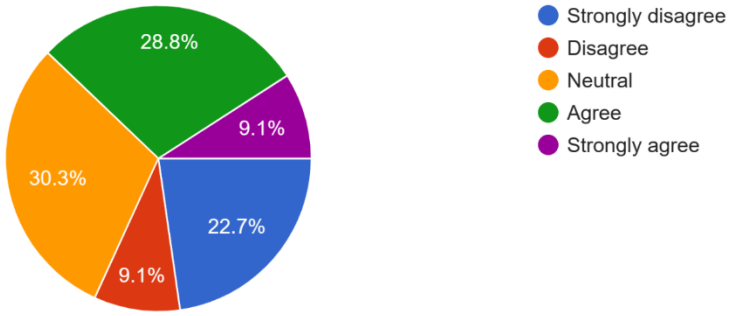
The course helped you to understand and compute inner products and determine orthogonality on vector spaces

66 responses



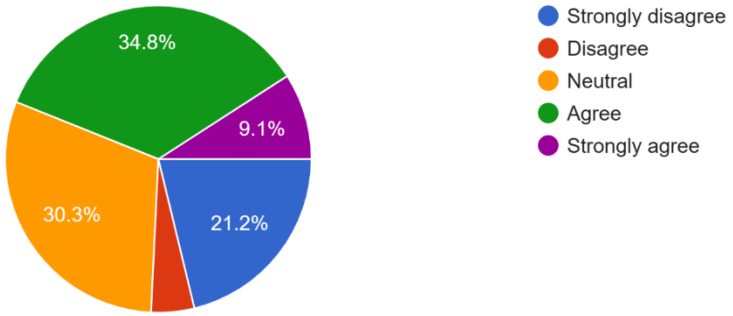
The course helped you to learn Gram–Schmidt orthogonalization to obtain orthonormal basis and understand its applications

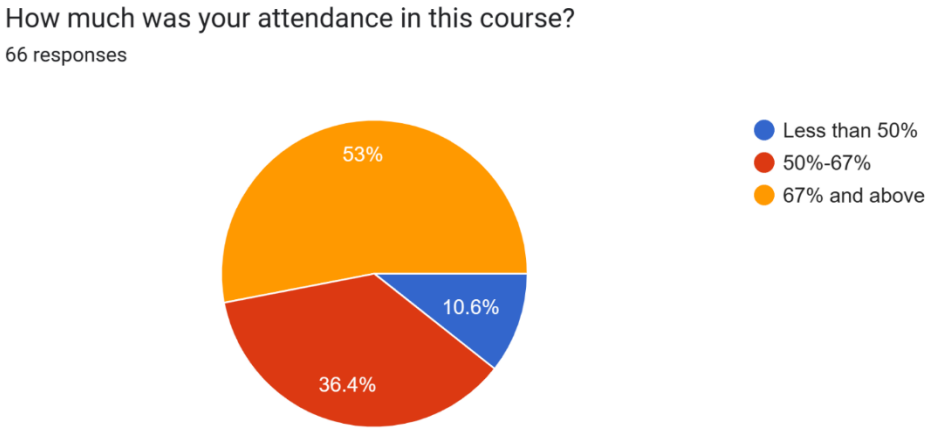
66 responses



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

66 responses





Observations:

From the given responses, it is observed that more than 75 % of students strongly agreed and agreed that they were able to appreciate the significance of unique factorization in rings and integral domains and 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. Around 70% students were able to understand the 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 53% students had more than 67% of attendance.

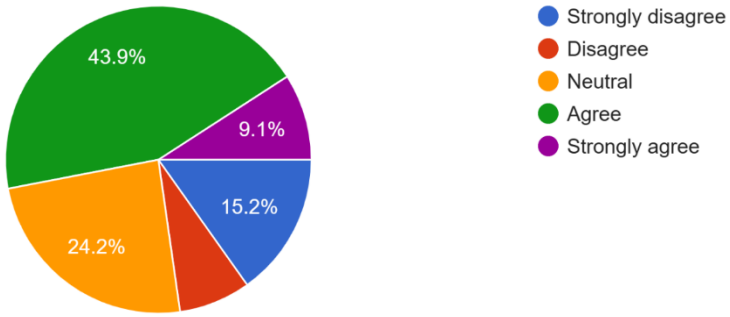
Action Taken:

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. Remedial classes will be taken for topics that students found a little difficult to understand.

Course 3: DSE-3 (ii): Introduction to Information Theory and Coding

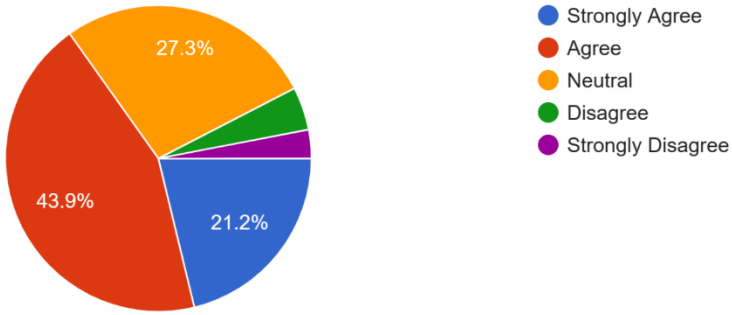
The course helped you to know the basic concepts of Information Theory

66 responses



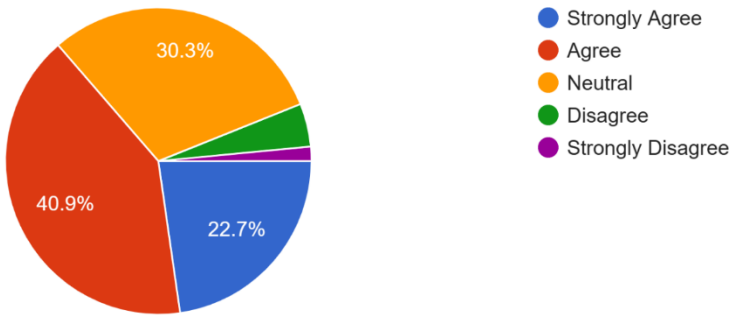
The course helped you to know about the basic relationship among diferent entropies and interpretation of Shannon's fundamental inequalities

66 responses



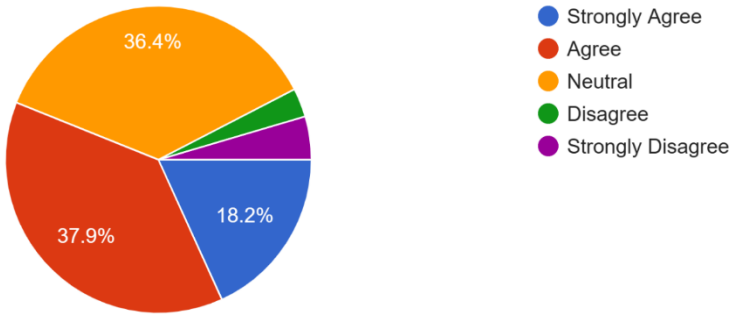
The course helped you to learn about the detection and correction of errors while transmission

66 responses



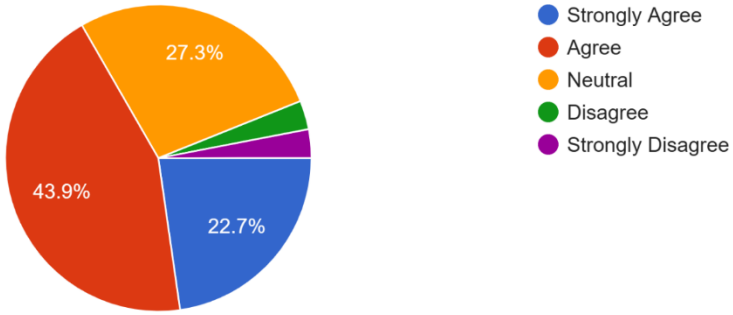
The course helped you to learn about the representation of a linear code by matrices

66 responses



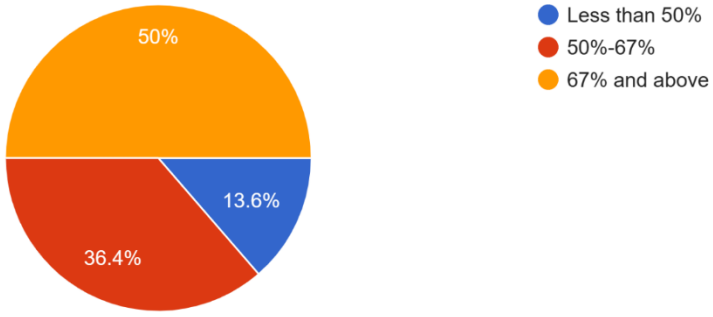
The course helped you to understand the concepts of coding and decoding of linear codes

66 responses



How much was your attendance in this course?

66 responses



Observations:

From the given responses, it is observed that more than 60% of students who opted for this course strongly agreed and agreed that they got an understanding of basic concepts of Information Theory. The course helped them to learn about the basic relationship among diferent entropies and interpretation of Shannon's fundamental inequalities. They were able to learn about the detection and correction of errors while transmission. The course helped you to learn the representation of a linear code by matrices. Only 55% of the students were able to understand the representation of a linear code by matrices. It is also observed that students need to be motivated to attend the course as nearly 50% of students had more than 67% of attendance.

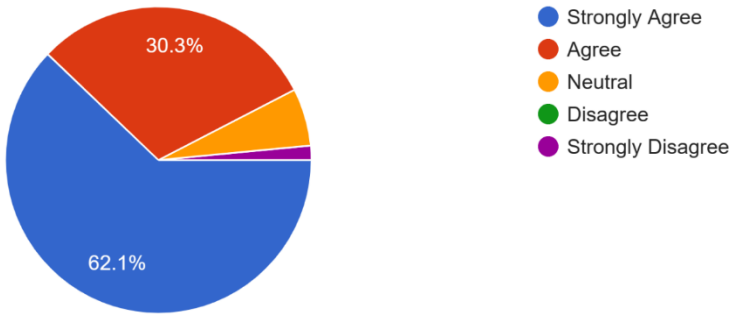
Action Taken:

For the moderate responses, topic will be discussed more with the students in tutorials. For the weak students, remedial classes will be held to discuss important topics and questions with them. The topic of representation of a linear code by matrices 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)

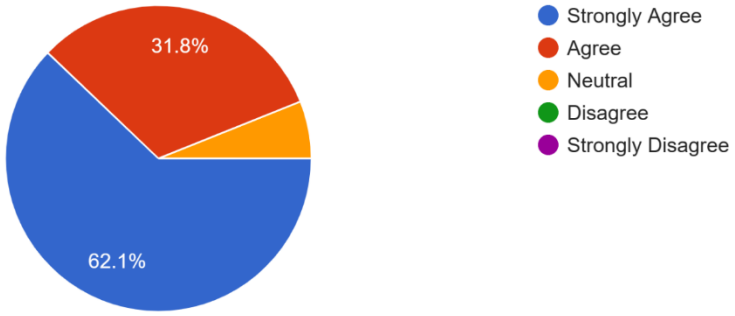
The course helped you to learn about the graphical solution of linear programming problem with two variables.

66 responses



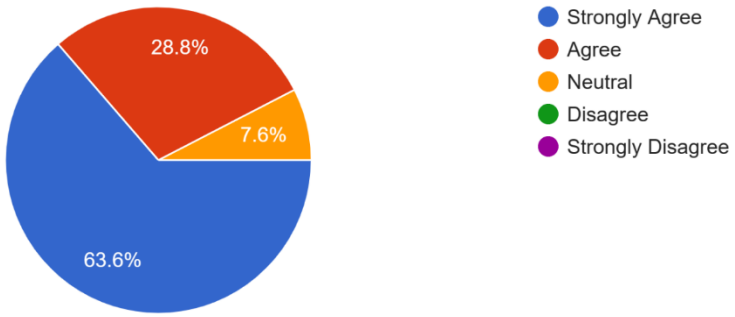
The course helped you to learn about the relation between basic feasible solutions and extreme points.

66 responses



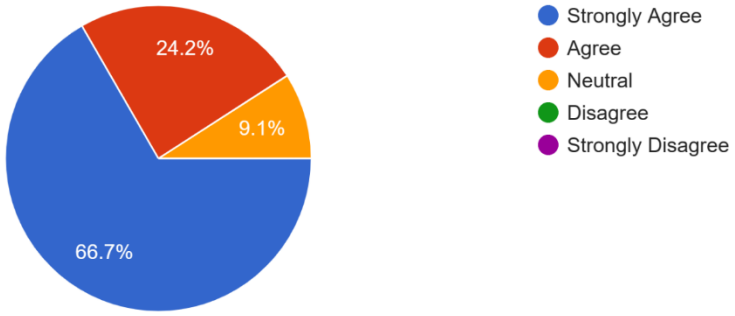
The course helped you to learn about the simplex method used to solve linear programming problems.

66 responses



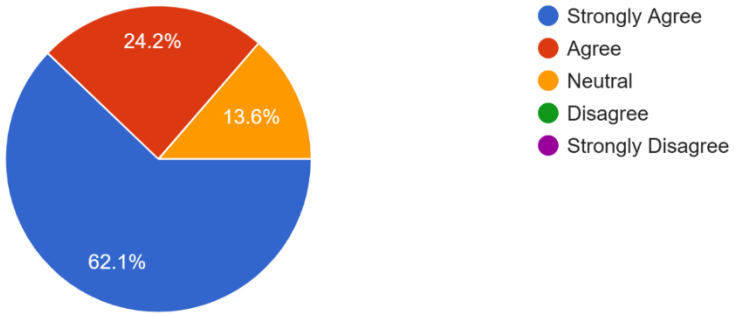
The course helped you to learn about two-phase and big-M methods to deal with problems involving artificial variables.

66 responses



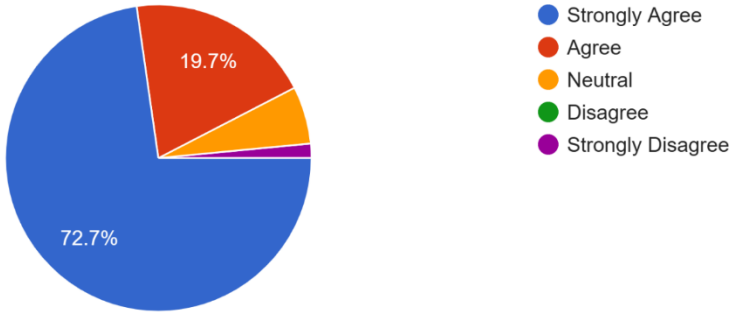
The course helped you to learn about the relationships between the primal and dual problems.

66 responses



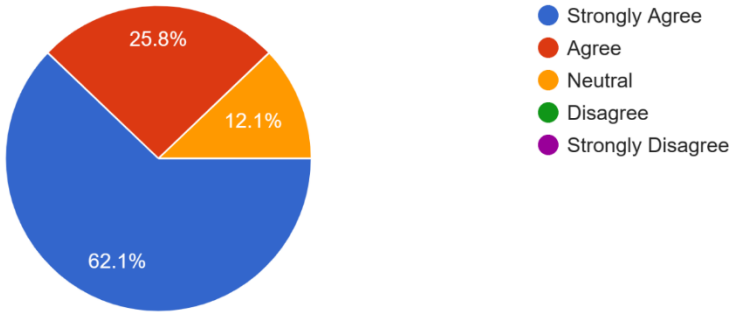
The course taught you to solve transportation and assignment problems.

66 responses



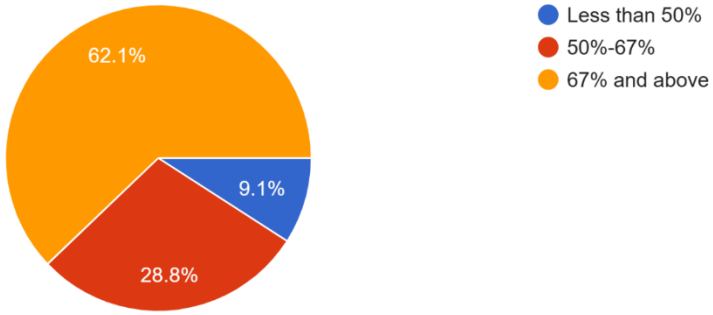
The course provided you the ability to apply linear programming method to solve two-person zero-sum game problems.

66 responses



How much was your attendance in this course?

66 responses



Observations:

From the given responses, it is observed that 85-95% 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. Students will be encouraged to attend classes more regularly as only 62.1% of students had more than 67% of attendance.

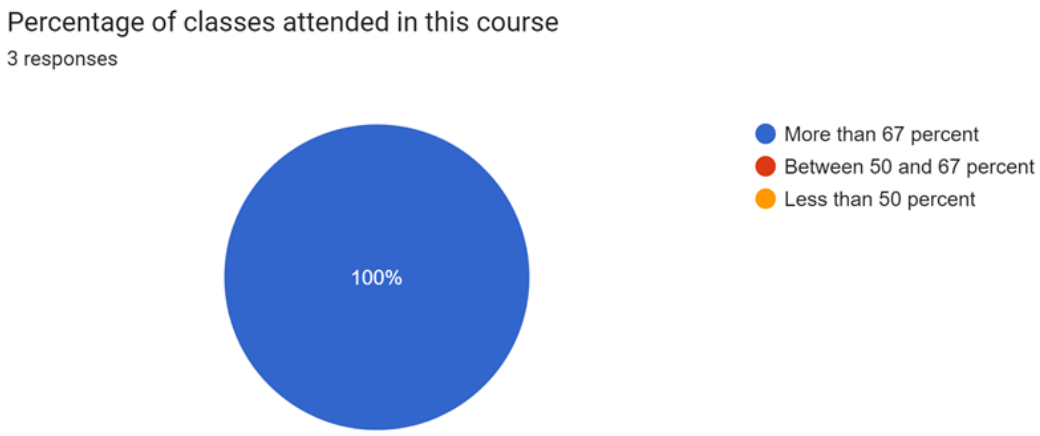
Action Taken:

The response for the course is good and efforts will be made to make use of new pedagogical methods. For the weak students, remedial classes will be held to discuss important questions with them. Assessments would also be done at regular intervals.

Department: Mathematics **Program: B.A.(Prog)**

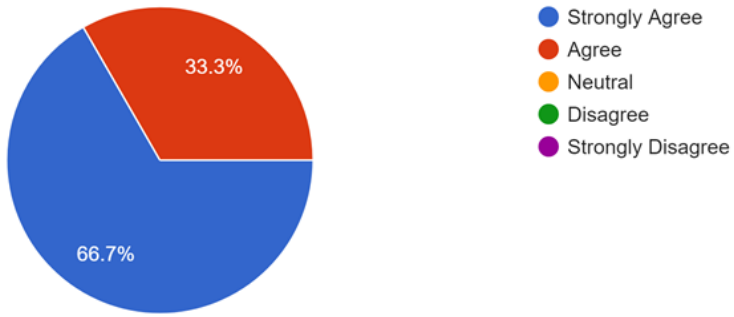
Semester: 6

GE-4-Numerical Methods



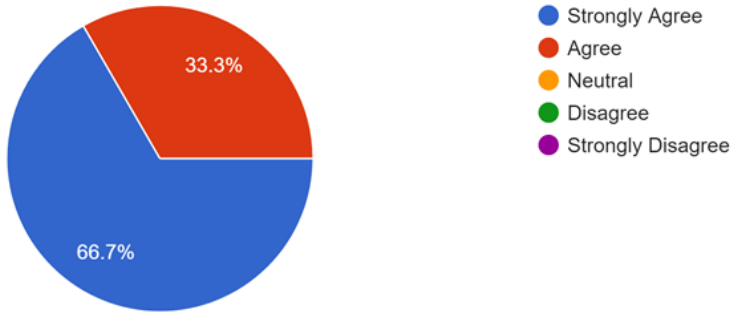
You understood the concept of iterative methods like Bisection method, Regula-False method, Secant method, Newton Raphson method

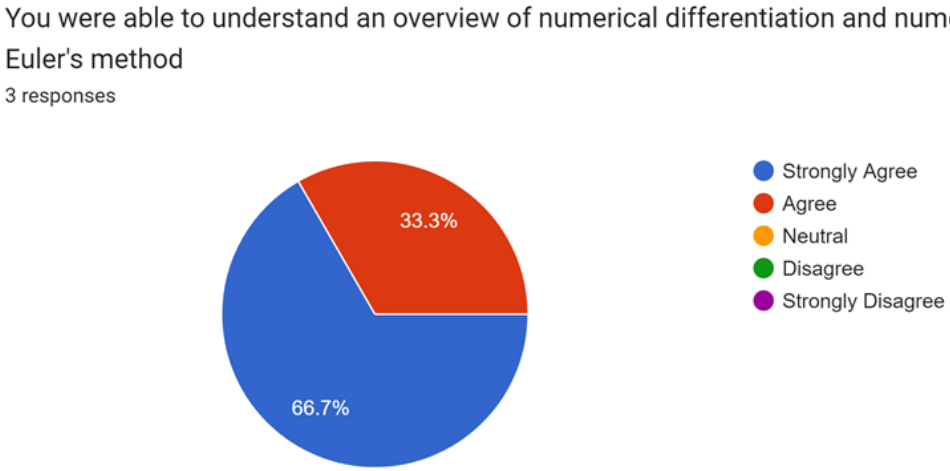
3 responses



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

3 responses





Observations:

From the given responses, it is observed that more than 67 % of students strongly agreed and agreed that they have understood the Bisection method, Regula-Falsi, Secant and Newton Raphson method. They also understood numerical differentiation and numerical integration, Euler's method, Gauss Elimination method, Gauss Jordan method, Lagrange method.

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.

Department: Mathematics

Program: B.A./B.Com. (Prog)

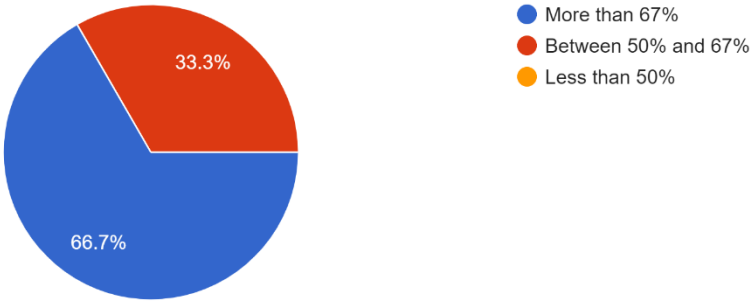
Semester: VI

Paper Name: GE-2 General Mathematics-II

UPC: 62355604

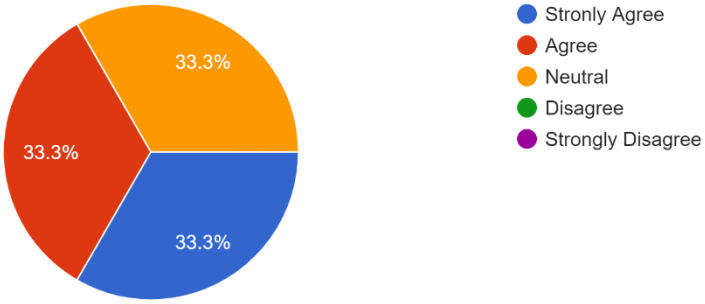
Percentage of Classes Attended for this Course

3 responses



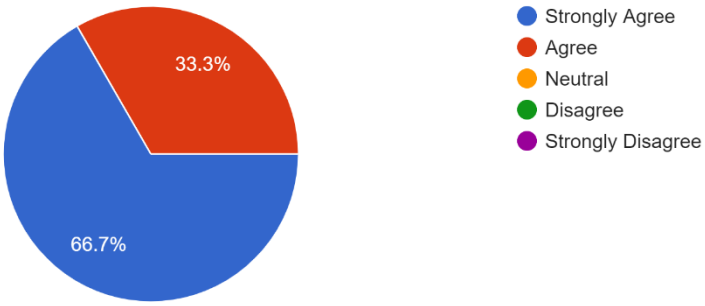
You have learned about the contributions of remarkable mathematicians in the field of algebra, analysis, number theory, calculus, analytic geometry, differential equations and mechanics.

3 responses



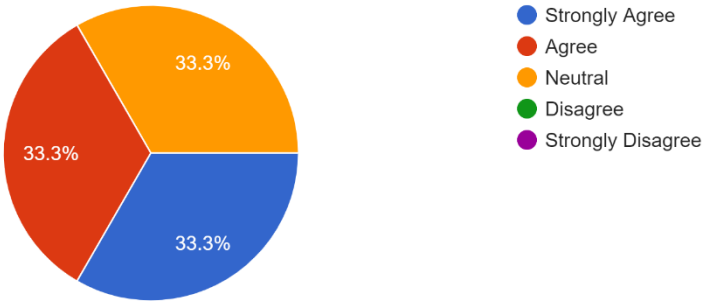
You have understood the basics of graph theory, functions and their graphs, perspective geometry and its uses in art, fractals and Fibonacci sequences with applications.

3 responses



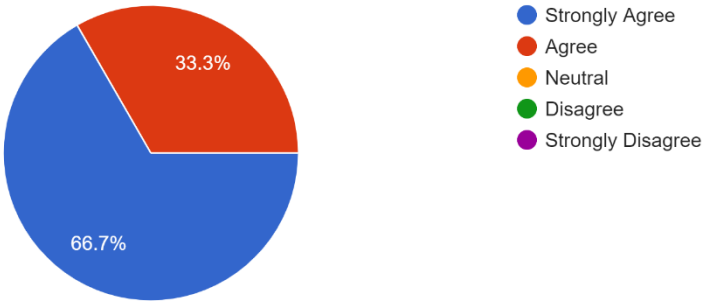
You have learned about types of symmetry and patterns by looking at monuments/buildings/ornamental art.

3 responses



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

3 responses



Observations:

From the given responses, it is observed that 100% of the students strongly agreed and agreed that they have understood the basics of graph theory, functions and their graphs, perspective geometry and its uses in art, fractals and Fibonacci sequences with applications. Also, they are able to solve systems of linear equations using Gauss elimination and Gauss−Jordon methods, and rank of matrices. It is also observed that more than 65% of the students are able to learned about the contributions of remarkable mathematicians in the field of algebra, analysis, number theory, calculus, analytic geometry, differential equations and mechanics. Also, they have learned about types of symmetry and patterns by looking at monuments/buildings/ornamental art.

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 the weak students, special classes will be held to discuss important questions with them. Assessments like quiz, presentations would also be done at regular intervals.