

## Jamal Mohamed College (Autonomous)

 Tiruchirappalli -620 020.START DATE: 26/07/2021 END DATE:31/07/2021

## DURATION 30HRS

PG RESEARCH DEPARTMENT OF MATHEMATICS OFFERED<br>VALUE ADDED COURSES

| COURSE CODE | COURSE TITLE |
| :---: | :---: |
| 21UMAVAC1 | Sage Math |
| 21UMAVAC2 | Scilab |

GOALS:Pure mathematics is the world's best game.
For Futher Details Head of the Department

## DEPARTMENT OF MATHEMATICS

## VALUE ADDED COURSE

| Semester | Course Code | Course Title | Hours |
| :---: | :---: | :---: | :---: |
| III | 21UMAVAC1 | SAGE MATH | 30 |

## Course Outcome

At the end of the course, the student will be able to:
CO.1. Using SageMath as a calculator.
CO.2. Implement and illustrate 2-D graphs and 3-D graphs.
CO.3. Solving mathematical problems and to plot using SageMath.
CO.4. Implement SageMath using templates and exceptional and handling concepts.
CO.5. Make use of theoretical concepts to solve problems and visualize the output.

## List of Practical

1. Finding all local extrema and inflection points of a function.
2. Creating and plotting 2-D graphs and 3-D graphs.
3. Finding the minimum surface area of given surface using package.
4. Finding the approximate roots using Newton's method.
5. Plotting and finding area between curves using integrals.
6. Finding the average of a function.
7. Finding the volume of solid of revolution.
8. Finding the solution for a system of linear equations.
9. Finding the divergence and curl of vector valued functions.
10. Using differential calculus to analyse a quintic polynomials features, for finding the optimal graphing window.

## Books for Reference:

1. Razvan A. Mezei, An Introduction to SAGE Programming: With Applications to SAGE, Wiley, 2016
2. https://doc.sagemath.org/pdf/en/tutorial/SageTutorial.pdf

| Semester | Course Code | Course Title | Hours |
| :---: | :---: | :---: | :---: |
| V | 21UMAVAC2 | SCILAB | 30 |

## Course Outcome

At the end of the course, the student will be able to:
CO.1. Evaluate, analyse and plot results.
CO.2. Develop programs in SciLab
CO.3. Understanding of linear algebra and numerical methods
CO.4. Analyse various SciLab commands
CO.5. Implement and illustrate 2-D graphs and 3-D graphs.

## List of Practical

1. Check whether the following Boolean statements are true or false based on the values of a, $\mathrm{b}, \mathrm{c}, \mathrm{x}$, and y given above.
(i) $\mathrm{a}>\mathrm{c}$ (ii) $\mathrm{a}=\mathrm{b}$ (iii) $(2 \mathrm{a}+\mathrm{b}) / \mathrm{x}^{2}<1$ (iv) $\mathrm{x}^{2}+2 \mathrm{ab}+\mathrm{b}^{2} \leq 23$ (v) $2 \mathrm{ac}=2 \mathrm{cb}$
2. Determine the result of the following calculations if $a=2.3, b=-2.3, c=\pi / 2, x=2 / \pi$, and $y=\sqrt{3}$ :
(i) $\left(\mathrm{a}^{2}+\mathrm{bc}+\mathrm{x}\right)$ (ii) $\sin (\mathrm{c})+\mathrm{y} / \mathrm{c}$ (iii) $(\mathrm{a}+\mathrm{c}) /(\mathrm{x}+\mathrm{y})($ iv) $1 /(\cos (\mathrm{c})+\ln (\mathrm{x}))$
(v) $(a+c)^{3} / b$
3. For the vectors $u$ and $v$, calculate the following:
(i) $\mathrm{w}=\mathrm{u}+\mathrm{v}$
(ii) $r=u / . v$
(iii) $\mathrm{z}=\mathrm{v}^{*} \mathrm{u}$
(iv) $\mathrm{t}=\mathrm{v}^{*} . \mathrm{u}$
4. Write a program for the following operations of the matrices $\mathrm{A}, \mathrm{B}$ and C :
(i) Sum of two matrices
(ii) Product of two matrices
(iii) Product of Three matrices
5. Verify whether the given matrix is singular or non-singular and compute its inverse if exists.
6. Write a programme for Cramer's rule to solve the simultaneous equations (maximum of three unknowns).
7. Write a programme for Gauss Jacobi iteration Method to solve the system of linear equations.
8. Solving the ordinary differential equations with initial condition and solving the system of ordinary differential equations.
9. Creating and plotting 2-D graphs.
10. Creating and plotting 3-D graphs.

## Book for Reference:

1. Er. Hema Ramachandran and Dr.Achutsankar Nair, SCILAB , S. Chand Publishers, 2011.
2. Stephen L. Campbell, Jean-Philippe Chancelier, and Ramine, Modelling and Simulation in Scilab/Scicos, 1 st Edition, Springer Publication, 2005.

II B.Sc. Mathematics (2021-2022)
(online mode)
Value Added Course Attendance Sheet (SageMath)



(Dr.M.MOHAMED ALTHAAF)


Head of the Department
Dr. R. JAHIR HUSSAIN
Associate Professor \& Head
Department of Mathematics
Jamal Mohamed College (Autonomous)
Tiruchirappalli-S20 020

II B.Sc. Mathematics (2021-2022)
Value Added Course Grade (SageMath)

| S.No. | Roll No. | Name | Mark | Grade |
| :---: | :---: | :---: | :---: | :---: |
| 1. | 20UMA001 | AHIL AHAMEDA V | 25 | Grade |
| 2. | 20UMA002 | KAMILHUSSAIN M | 90 | 0 |
| 3. | 20UMA003 | AJILAN S | 10 | - |
| 4. | 20UMA004 | MURUGAN M | 40 | C |
| 5. | 20UMA005 | ABDUL MALIKM | AAA | - |
| 6. | 20UMA006 | ANAND S | 45 | C |
| 7. | 20 UMA007 | RIYAS KHAN J | 30 | - |
| 8. | 20UMA008 | DHANUSH M | 20 | - |
| 9. | 20UMA009 | DHAYANITHI K | 40 | C |
| 10. | 20 UMA010 | ABDULRAHMAN A | AAA | - |
| 11. | 20UMA011 | UMMER Y | 20 | - |
| 12. | 20 MMA012 | BARATH R | 50 | B |
| 13. | 20 UMA013 | PRAVIN KUMARA R | 20 | - |
| 14. | 20 UMA014 | ANASMOHAMED A S | 55 | B |
| 15. | $20 \cup M A 015$ | THIYANESHWAR C P | 65 | B |
| 16. | 20 UMA016 | PARTHIBAN N | 55 | B |
| - 17. | 20 UMA017 | ARULPRASATHR | 50 | B |
| . 18 | $20 \mathrm{UMA018}$ | SILAMBARASAN M | 10 | - |
| 19. | 20UMA019 | ARUNKUMAR A | 40 | C |
| 20. | 20UMA020 | MOAHAMEDHARUN RASITH H | 20 | - |
| 21. | 20UMA021 | VIVEKANANTHAN R | 30 | - |
| 22. | 20UMA022 | KUMARESAN K | 10 | - |
| 23. | $20 \cup M A 023$ | UDHAYAKUMAR V | 10 | - |
| 24. | 20UMA024 | MOHAMEDANAS M | 80 | A |
| 25. | 20 MMA025 | AHAMEDKHANK | AAA | - |
| 26. | 20UMA026 | TAMIZHARASAN J | 30 | - |
| 27. | 20 UMA027 | ANASH N | 20 |  |
| 28. | 20UMA028 | SIVAPRAKASHR | 90 | 0 |
| 29. | 20UMA029 | MANOJKUMART | 40 | C |
| 30. | 20UMA030 | SATHIK ALIUMARMUKTHAR M | 75 | A |
| 31. | 20UMA031 | SURESHKUMAR C | 30 |  |
| 32. | $20 \cup M A 032$ | PRAVEEN B | 90 | 0 |
| 33. | 20UMA033 | NITHISHKUMAR T | 65 | B |
| 34. | 20UMA034 | JACKSAN D | 70 | A |
| 35. | 20UMA035 | SHIYADH S | 40 | C |
| 36. | 20 MMA036 | MOHAMEDIBRAHIM M | 40 |  |
| 37. | 20 UMA037 | ASRARAHAMED N | 40 |  |
| 38. | 20UMA038 | PRAVEENKUMAR S | 20 |  |
| 39. | 20UMA039 | MUHAMMEDHUNAIF K.S | 70 |  |
| 40. | 20UMA040 | MOHAMMEDSHARUK K | AAA |  |
| 41. | 20UMA041 | KISHOREKUMAR M | 50 |  |
| 42. | 20 UMA042 | MOHAMEDGANI S | 50 |  |
| 43. | 20 UMA043 | MUKESHKANNAN M | 85 |  |
| 44. | 20UMA044 | RAJKUMAR M | 30 |  |
| 45. | 20UMA045 | ABDUL BASITHS | 40 |  |


| S.No. | Roll No. | Name | Mark | Grade |
| :---: | :--- | :--- | :---: | :--- |
| 46. | 20UMA046 | SANJAI K | 15 | - |
| 47. | 20UMA047 | RIAZUDEEN S | 60 | B |
| 48. | 20UMA048 | RAKESHKUMAR J | 40 | C |
| 49. | 20UMA049 | SYEDSHABBERAHAMED S | AAA | - |
| 50. | 20 UMA050 | GOPINATH S | AAA | - |
| 51. | 20UMA051 | MANIKANDAN K | 40 | C |
| 52. | 20UMA052 | BALAN S | 10 | - |
| 53. | 20 UMA053 | MANIMARAN | 0 | - |
| 54. | 20UMA054 | VIGNESH | 20 | - |
| 55. | 20UMA055 | VIGNESH | AAA | - |
| 56. | 20UMA056 | SHEIKABDULLAH | 30 | - |
| 57. | 20UMA057 | CHANDRU | AAA | - |
| 58. | 20UMA123 | RAHUL J | 10 | - |



Tutor In-Charge
(Dr.M.MOHAMED AUTAAF)


Head of the Department
Dr. R. JAhIR HUSSAIN
Associate Professer \& Head Cepartment of Nathematics
Jamal RohamedCellege (Autonomous)
Tiruchirappalli-620 020

JAMAL MOHAMED COLLEGE (AUTONOMOUS) PG AND RESEARCH DEPARTMENT OF MATHEMATICS (SF-WOMEN) VALUE ADDED COURSE MARK LIST

CLASS : II B.Sc., Mathematics

| S.NO | REG NO | ROLL NO | NAME | MARKS OBTAINED | GRADE OBTAINED |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 18UMA089 | 18UW25023 | AARTHI.M | 70 | A |
| 2 | 20UMA058 | 20UW21001 | AAFREEN BEGUM.M | 74 | A |
| 3 | 20UMA059 | 20UW21002 | AASIYA BEGUM .M | 75 | A |
| 4 | 20UMA060 | 20UW21003 | AATHILAKSHMI.M | 71 | A |
| 5 | 20UMA061 | 20UW21004 | ABILOSHINI.G | 72 | A |
| 6 | 20UMA062 | 20UW21005 | ADHILA AFRIN.A | 72 | A |
| 7 | 20UMA063 | 20UW21006 | AFFRIN SAMEERA.A |  | A |
| 8 | 20UMA064 | 20UW21007 | AFRIN FATHIMA | 74 | A |
| 9 | 20UMA065 | 20UW21008 | ARSHADHA THAFFEEAA S.M | 74 | A |
| 10 | 20UMA066 | 20UW21010 | AJHAR FATHIMA.M | 74 | A |
| 11 | 20UMA067 | 20UW21011 | ALSSABANA.S | 75 | A |
| 12 | 20UMA068 | 20UW21012 | ANISUL AATHIKA | 74 | A |
| 13 | 20UMA069 | 20UW21013 | AROCKIA ANTHUVAN | 74 | A |
|  |  |  | JONAPARK.S | 75 | A |
| 14 | 20UMA070 | 20UW21014 | ASHIKA IMRANA.A | 74 | A |
| 15 | 20UMA071 | 20UW21015 | ASILA.A | 74 |  |
| 16 | 20UMA072 | 20UW21016 | ASMA.K | 72 | A |
| 17 | 20UMA073 | 20UW21017 | BHAVADHARANI.S | 75 |  |
| 18 | 20UMA074 | 20UW21018 | BHUVANESWARI.P | 74 | A |
| 19 | 20UMA075 | 20UW21019 | BHUVANESWARI.T | 74 | A |
| 20 | 20UMA076 | 20UW21020 | DEEPSIKA SRI.K | 74 | A |
| 21 | 20UMA077 | 20UW21021 | DHARANI.T | 74 | A |
| 22 | 20UMA078 | 20UW21022 | DURGA DEVI.M | 74 | A |
| 23 | 20UMA079 | 20UW21023 | DURGADEVI.V | 74 | A |
| 24 | 20UMA080 | 20UW21024 | FAROOK NISHAN | 74 | A |
| 25 | 20UMA081 | 20UW21025 | GAYATHRI.R | A | - |
| 26 | 20UMA082 | 20UW21026 | GEETHA.M | 73 | A |
| 27 | 20UMA083 | 20UW21027 | GEETHALAKSHMI.K | 74 | A |
| 28 | 20UMA084 | 20UW21028 | GULSHAN BEGUM M G | 74 | A |
| 29 | 20UMA085 | 20UW21029 | HABIBUNNISA.R | 74 | A |
| 30 | 20UMA086 | 20UW21030 | HAJIRA BEGUM | 74 | A |
| 31 | 20UMA087 | 20UW21031 | HARINI.K | 74 | A |
| 32 | 20UMA088 | 20UW21032 | INDIRA GANDH | 74 | A |
| 33 | 20UMA089 | 20UW21033 | INUL NASRIN | 74 | A |
| 34 | 20UMA090 | 20UW21034 | JANANEE M. | 74 | A |
| 35 | 20UMA091 | 20UW21037 |  | 75 | A |
| 36 | 20UMA092 | 20UW21038 | Keerrthana. | 75 | A |
| 37 | 20UMA093 | 20UW21039 | KEERTHANA | 72 | A |
| 38 | 20UMA094 | 20UW21040 | KEERTHIKA. | 74 | A |
| 39 | 20UMA095 | 20UW21041 | KEERTHIKA DEVI | 72 | A |
| 40 | 20UMA096 | 20UW21043 | MAHALAKSHMI.P | 74 | A |
| 41 | 20UMA097 | 20UW21044 | MARJUKA FATHIMA | 72 | A |
| 42 | 20UMA098 | 20UW21045 | MATHUMATHI」 | 73 | A |
|  |  |  | MATHUMATHI.J | 73 | A |




SIGNATURE OF TUTOR


SIGNATURE OF COORDINATOR

JAMAL MOHAMED COLLEGE (AUTONOMOUS) PG AND RESEARCH DEPARTMENT OF MATHEMATICS (SF-WOMEN) VALUE ADDED COURSE ATTENDANCE LIST

CLASS: II B.Sc., Mathematics

| S.No | REG NO | ROLL NO | NAME | 26.07.21 | 27.07.21 | 28.07.21 | 29.07.21 | 30.07.21 | 31.07.21 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 18UMA089 | 18UW25023 | AARTHI.M | P | P | P | P | P | P |
| 2 | 20UMA058 | 20UW21001 | AAFREEN BEGUM.M | P | P | P | P | P | P |
| 3 | 20UMA059 | 20UW21002 | AASIYA BEGUM .M | P | P | P | P | P | P |
| 4 | 20UMA060 | 20UW21003 | AATHILAKSHMI.M | P | P | P | P | P | P |
| 5 | 20UMA061 | 20UW21004 | ABILOSHINI.G | P | P | P | P | P | P |
| 6 | 20UMA062 | 20UW21005 | ADHILA AFRIN.A | P | P | P | P | P | P |
| 7 | 20UMA063 | 20UW21006 | AFFRIN SAMEERA.A | P | P | P | P | P | P |
| 8 | 20UMA064 | 20UW21007 | AFRIN FATHIMA.A | P | P | P | P | P | P |
| 9 | 20UMA065 | 20UW21008 | ARSHADHA THAFFEEAA.S.M | P | P | P | P | P | P |
| 10 | 20UMA066 | 20UW21010 | AJHAR FATHIMA.M | P | P | P | P | P | P |
| 11 | 20UMA067 | 20UW21011 | ALSABANA.S | P | P | P | P | P | P |
| 12 | 20UMA068 | 20UW21012 | ANISUL AATHIKA.G | P | P | P | P | P | P |
| 13 | 20UMA069 | 20UW21013 | AROCKIA ANTHUVAN JONAPARK.S | P | P | P | P | P | P |
| 14 | 20UMA070 | 20UW21014 | ASHIKA IMRANA.A | P | P | P | P | P | A |
| 15 | 20UMA071 | 20UW21015 | ASILA.A | P | P | P | P | P | P |
| 16 | 20UMA072 | 20UW21016 | ASMA.K | A | P | A | P | A | A |
| 17 | 20UMA073 | 20UW21017 | BHAVADHARANI.S | P | P | P | P | P | P |
| 18 | 20UMA074 | 20UW21018 | BHUVANESWARI.P | P | P | P | P | P | P |
| 19 | 20UMA075 | 20UW21019 | BHUVANESWARI.T | P | P | P | P | P | P |
| 20 | 20UMA076 | 20UW21020 | DEEPSIKA SRI.K | P | P | P | P | P | P |
| 21 | 20UMA077 | 20UW21021 | DHARANI.T | P | P | P | P | P | P |
| 22 | 20UMA078 | 20UW21022 | DURGA DEVI.M | P | P | P | P | P | P |
| 23 | 20UMA079 | 20UW21023 | DURGADEVI.V | P | P | P | P | P | P |
| 24 | 20UMA080 | 20UW21024 | FAROOK NISHAN | A | A | A | A | A | A |
| 25 | 20UMA081 | 20UW21025 | GAYATHRI.R | A | P | P | P | P | P |
| 26 | 20UMA082 | 20UW21026 | GEETHA.M | P | P | P | P | P | P |
| 27 | 20UMA083 | 20UW21027 | GEETHALAKSHMI.K | P | A | A | P | P | A |
| 28 | 20UMA084 | 20UW21028 | GULSHAN BEGUM M.G | P | P | P | P | P | P |
| 29 | 20UMA085 | 20UW21029 | HABIBUNNISA.R | P | A | A | P | P | A |
| 30 | 20UMA086 | 20UW21030 | HAJIRA BEGUM.S | P | P | P | P | P | P |
| 31 | 20UMA087 | 20UW21031 | HARINI.K | P | P | P | P | P | P |
| 32 | 20UMA088 | 20UW21032 | INDIRA GANDHI.M | P | P | P | P | P | P |
| 33 | 20UMA089 | 20UW21033 | INUL NASRIN.P | A | P | P | P | P | P |
| 34 | 20UMA090 | 20UW21034 | JANANEE M.R | P | P | P | P | P | P |
| 35 | 20UMA091 | 20UW21037 | KEERTHANA.M | P | P | P | P | P | P |
| 36 | 20UMA092 | 20UW21038 | KEERTHANA.R | P | P | P | P | P | P |
| 37 | 20UMA093 | 20UW21039 | KEERTHANA.S | P | P | P | P | P | P |
| 38 | 20UMA094 | 20UW21040 | KEERTHIKA.L | P | P | P | P | P | P |
| 39 | 20UMA095 | 20UW21041 | KEERTHIKA DEVI.R | P | P | P | P | P | P |
| 40 | 20UMA096 | 20UW21043 | MAHALAKSHMI.P | P | P | P | P | P | P |
| 41 | 20UMA097 | 20UW21044 | MARJUKA FATHIMA.S | P | P | P | P | P | P |
| 42 | 20UMA098 | 20UW21045 | MATHUMATHI.J | P | P | P | A | P | P |


| 43 | 20UMA099 | 20UW21046 | MOHAMED BEEVI.M | P | P | P | P | P | A |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 44 | 20UMA100 <br> 1 | 20UW21047 | NASHREEN <br> SULTHANA.M | P | P | P | P | P | P |
| 45 | 20UM101 | 20UW21048 | NILOFER NISHA.A | P | P | P | P | P | P |
| 46 | 20UMA102 | 20UW21049 | NISHA BEGAM.A | A | P | A | A | P | A |
| 47 | 20UMA103 | 20UW21050 | NIVETHA.R | P | P | P | P | P | P |
| 48 | 20UMA104 | 20UW21052 | PRIYADARSHINI.L | P | P | P | P | P | P |
| 49 | 20UMA105 | 20UW21053 | RABIATHUL BASIRIYA | A | A | A | A | A | A |
| 50 | 20UMA106 | 20UW21054 | RESHMA FATHIMA.K | P | P | A | P | A | P |
| 51 | 20UMA107 | 20UW21055 | RIFAYA FIRTHOUSE.J | P | P | P | P | P | P |
| 52 | 20UMA108 | 20UW21056 | ROSAN YASHMIN.B | P | P | P | P | P | P |
| 53 | 20UMA109 | 20UW21057 | ROSHINI.G | P | P | P | P | A | A |
| 54 | 20UMA110 | 20UW21058 | SAKTHI SOWMIYA.A | P | P | P | P | P | P |
| 55 | 20UMA111 | 20UW21059 | SAMEERA.S | P | P | P | P | P | P |
| 56 | 20UMA112 | 20UW21060 | SAMIRA.J | P | P | P | P | P | P |
| 57 | 20UMA113 | 20UW21061 | SANKARI.S | P | P | P | P | P | A |
| 58 | 20UMA114 | $20 U W 21062$ | SHAFA.S | A | P | P | P | P | P |
| 59 | 20UMA115 | $20 U W 21063$ | AJIMA BEGUM.M | P | P | P | P | P | P |
| 60 | 20UMA116 | 20UW21066 | ASMI.S | P | P | P | P | P | P |
| 61 | 20UMA117 | $20 U W 21067$ | SUVETHA.S | P | P | P | P | P | P |
| 62 | 20UMA118 | 20UW21068 | THAHIRA KAUSER M.A | A | P | P | P | P | P |
| 63 | 20UMA119 | $20 U W 21069$ | THASLEEM BANU.A | P | P | P | P | P | P |
| 64 | 20UMA120 | $20 U W 21070$ | SARUMATHI.K | P | P | P | P | P | P |
| 65 | 20UMA121 | $20 U W 21072$ | ARTHI.M | P | P | P | P | P | P |
| 66 | 20UMA122 | $20 U W 21073$ | DHANUPRIYA.A | P | P | P | P | P | P |

Cleserwero
SIGNATURE OF CO-ORDINATOR


## JAMAL MOHAMED COLLEGE (AUTONOMOUS)

College with Potential for Excellence Accredited (3rd Cycle) with ' $A$ ' Grade by NAAC DBT Star College Scheme \& DST-FIST Funded (Affiliated to Bharathidasan University) TIRUCHIRAPPALLI- 620020

## Gertificale

This is to certify that $\mathcal{M r} r . / \mathcal{M s}$. $\mathcal{K} \mathcal{A} \mathcal{M}$ IL $\mathcal{H}$ USSSAIN $\mathcal{M}$

Of II B.Sc. Mathematics class, Roll $\mathcal{N}$ o. 2oUMAMooz of our College completed a Value Added Course held from 26.07.2021 to 31.07.2021, conducted by the Department of Mathematics

Title of Course : SAGEMATH

Grade obtained : 0


HEAD OF THE DEPARTMENT


PRINCIPAL


## JAMAL MOHAMED COLLEGE (AUTONOMOUS)

College with Potential for Excellence Accredited (3rd Cycle) with ' $A$ ' Grade by NAAC DBT Star College Scheme \& DST-FIST Funded (Affiliated to Bharathidasan University) TIRUCHIRAPPALLI- 620020

## Certificale



Of II B.Sc. Mathematics class, $\mathcal{R o l l} \mathcal{N}$ o. 2oUMAMoo4 of our College completed a Value Added Course held from 26.07.2021 to 31.07.2021, conducted by the Department of Mathematics

Title of Course : SAGEMATH

Grade obtained : C

head of the department


PRINCIPAL


## JAMAL MOHAMED COLLEGE (AUTONOMOUS)

College with Potential for Excellence Accredited (3rd Cycle) with ' $A$ ' Grade by NAAC DBT Star College Scheme \& DST-FIST Funded (Affiliated to Bharathidasan University) TIRUCHIRAPPALLI- 620020

## Tertificale

This is to certify that $\mathcal{M r} r / / \mathcal{M} s$. $\mathcal{A} \mathcal{N} \mathcal{A N D} S$

Of II B.Sc. Mathematics class, Roll $\mathcal{N}$ o. 2oUMAAoo6 of our College completed a Value Added Course held from 26.07.2021 to 31.07.2021, conducted by the Department of Mathematics

Title of Course : SAGEMATH

Grade obtained: C

head of the department


PRINCIPAL


## JAMAL MOHAMED COLLEGE (AUTONOMOUS)

College with Potential for Excellence Accredited (3rd Cycle) with ' $A$ ' Grade by NAAC DBT Star College Scheme \& DST-FIST Funded (Affiliated to Bharathidasan University) TIRUCHIRAPPALLI- 620020

## Gertificale

This is to certify that $\mathcal{M r} . / \mathcal{M} s . \mathcal{D H} \mathcal{A} y \mathcal{A} \mathcal{N} \mathcal{T H} \mathcal{H} \mathcal{K}$

Of II B.Sc. Mathematics class, Roll $\mathcal{N}$ o. 2oUMAMoo9 of our College completed a Value Added Course held from 26.07.2021 to 31.07.2021, conducted by the Department of Mathematics

Title of Course : SAGEMATH

Grade obtained : C

head of the department


PRINCIPAL


## JAMAL MOHAMED COLLEGE (AUTONOMOUS)

College with Potential for Excellence Accredited (3rd Cycle) with ' $A$ ' Grade by NAAC DBT Star College Scheme \& DST-FIST Funded (Affiliated to Bharathidasan University) TIRUCHIRAPPALLI- 620020

## Gertificale

$\mathcal{T h}$ is is to certify that $\mathcal{M r} . / \mathcal{M s}$. $\mathcal{B A} \mathcal{A} \mathcal{A} \mathcal{A} \mathcal{H} \mathcal{R}$

Of II B.Sc. Mathematics class, Roll $\mathcal{N o}$. 2oUMAMo12 of our College completed a Value Added Course held from 26.07.2021 to 31.07.2021, conducted by the Department of Mathematics

Title of Course : SAGEMATH

Grade obtained : B

head of the department


PRINCIPAL

