

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI

Course Schedule: June - November 2024

Department : Mathematics
Name/s of the Faculty : Dr. Benazir Obilia. X. A & Ms. Nancy Arokia Rani S
Course Title : MATHEMATICS THROUGH SCIENTIFIC SOFTWARE
Course Code : 19ID/IC/MS55
Shift : II

Week & No. of hours	Units & Topics	Teaching Methodology	Text & References	Method of Evaluation
Jun 19 – 26, 2024 (Day Order 1 - 6) (6 hours)	Unit 1 - Microsoft Excel 1.1 Building Basic Formula - Working with Charts Unit 4 Statistical Software: R 4.1 Data Types in R – Numeric, Integer, Complex, Logical, Character, Vectors, Matrices & Arrays, Lists, Data Frames, Factors, Strings	Demo & Practical Sessions	1) Curtis, D. Frye. Microsoft Excel 2013, Step by Step. 2013 2) https://www.tutorialspoint.com/excel/index.htm 3) Sudhamathy, Jothi Venkateswaran. R Programming – An Approach to Data Analytics.	Hands on & Slip Test
Jun 27 – July 4, 2024 (Day Order 1 - 6) (6 hours)	Unit 1 - Microsoft Excel 1.1 Cont - Pivot Table 1.2 - Importing Data – Data Cleaning Unit 4 Statistical Software: R 4.1 Data Types in R – Numeric, Integer, Complex, Logical, Character, Vectors, Matrices & Arrays, Lists, Data Frames, Factors, Strings	Demo & Practical Sessions	1) Curtis, D. Frye. Microsoft Excel 2013, Step by Step. 2013 2) https://www.tutorialspoint.com/excel/index.htm 3) Sudhamathy, Jothi Venkateswaran. R Programming – An Approach to Data Analytics.	Hands on & Slip Test
July 5 – 12, 2024 (Day Order 1 - 6) (6 hours)	Unit 1 - Microsoft Excel 1.2 Cont.. Data Validation – Creating named ranges and constants Unit 4 Statistical Software: R 4.2 Graphics using R – Pie Chart, Scatter Plot, Line Plot, Histograms, Box Plot, Bar Plot	Demo & Practical Sessions	1) Curtis, D. Frye. Microsoft Excel 2013, Step by Step. 2013 2) Sudhamathy, Jothi Venkateswaran. R Programming – An Approach to Data Analytics.	Hands on & Slip Test
July 15 –	Unit 1 - Microsoft Excel 1.3 Form Controls	Demo & Practical	1) Curtis, D. Frye. Microsoft Excel 2013, Step by Step.	Hands on &

23, 2024 (Day Order 1 - 6) (6 hours)	Unit 4 Statistical Software: R 4.2 Graphics using R – Pie Chart, Scatter Plot, Line Plot, Histograms, Box Plot, Bar Plot	Sessions	2013 2) Sudhamathy, Jothi Venkateswaran. R Programming – An Approach to Data Analytics.	Slip Test
July 24 – 31, 2024 (Day Order 1 - 6) (6 hours)	Unit 1 - Microsoft Excel 1.4 Working with macros and forms Unit 4 Statistical Software: R 4.2 Graphics using R – Pie Chart, Scatter Plot, Line Plot, Histograms, Box Plot, Bar Plot	Demo & Practical Sessions	1) Curtis, D. Frye. Microsoft Excel 2013, Step by Step. 2013 2) https://www.tutorialspoint.com/excel/index.htm 3) Sudhamathy, Jothi Venkateswaran. R Programming – An Approach to Data Analytics.	Hands on & Slip Test
Aug 1 – 5, 2024 (Day Order 1 - 3) (2 hours)	Unit 1 - Microsoft Excel 1.5 Solver – Goal Seek Unit 5 Statistical Analysis using R 5.1 Mean, Median, Mode, Standard Deviation & Variation, Quartile Ranges	Demo & Practical Sessions	1) Curtis, D. Frye. Microsoft Excel 2013, Step by Step. 2013 2) Sudhamathy, Jothi Venkateswaran. R Programming – An Approach to Data Analytics.	Hands on & III Component Test (unit 1- 10 marks)
Aug 6 – 10, 2024	C. A. Test – I (UNIT 1 & 4)			

Aug 12 – 14, 2024 (Day Order 4-6) (4 hours)	Unit 2 -Multimedia: GIMP 2.1 - GIMP Basics Unit 5 Statistical Analysis using R 5.2 Normal Distribution	Demo & Practical Sessions	1) Jason van Gumster Robert Shimonski, GIMP Bible, Wiley Publishing, 2010. 2) https://docs.gimp.org/2.10/en/ 3) Sudhamathy, Jothi Venkateswaran. R Programming – An Approach to Data Analytics.	Hands on & Slip Test
Aug 16 – 23, 2024 (Day Order 1-6) (6 hours)	Unit 2 -Multimedia: GIMP 2.1 –Cont..Working with Images Unit 5 Statistical Analysis using R 5.2 Binomial Distribution	Demo & Practical Sessions	1) Jason van Gumster Robert Shimonski, GIMP Bible, Wiley Publishing, 2010. 2) https://docs.gimp.org/2.10/en/ 3) Sudhamathy, Jothi Venkateswaran. R Programming – An Approach to Data Analytics.	Hands on & Slip Test
Aug 27 – Sep 3, 2024 (Day Order 1-6) (6 hours)	Unit 2 -Multimedia: GIMP 2.1 –Cont..Transformations: Global and Local Unit 5 Statistical Analysis using R 5.3 Correlation Analysis and Regression Analysis	Demo & Practical Sessions	1) Jason van Gumster Robert Shimonski, GIMP Bible, Wiley Publishing, 2010. 2) https://docs.gimp.org/2.10/en/ 3) Sudhamathy, Jothi Venkateswaran. R Programming – An Approach to Data Analytics.	III Component Minor Project on Unit II (15 MARKS)
Sep 4 – 11, 2024 (Day Order 1-6) (6 hours)	Unit 2 -Multimedia: GIMP 2.2 Drawing and Illustration Unit 5 Statistical Analysis using R 5.4 Analysis of Variance (ANOVA)	Demo & Practical Sessions	1) Jason van Gumster Robert Shimonski, GIMP Bible, Wiley Publishing, 2010. 2) https://docs.gimp.org/2.10/en/ 3) Sudhamathy, Jothi Venkateswaran. R Programming – An Approach to Data Analytics.	Hands on & Slip Test
Sep 12 - 20, 2024 (Day Order 1- 6)	Unit 2 -Multimedia: GIMP 2.2 –Cont..Logos and Textures Unit 5 Statistical Analysis	Demo & Practical Sessions	1) Jason van Gumster Robert Shimonski, GIMP Bible, Wiley Publishing, 2010. 2) https://docs.gimp.org/2.10/en/	Hands on & Slip Test

(6 hours)	using R 5.5 Chi Square Test and Hypothesis Testing		3) Sudhamathy, Jothi Venkateswaran. R Programming – An Approach to Data Analytics.	
Sep 23 - 26, 2024 (Day Order 1-4) (3 hours)	Unit 2 -Multimedia: GIMP 2.3 -Animations – Animated Text Unit 3 Mathematical Software: MATHCAD 3.1 Creating Mathcad Worksheets: Working with Math, text regions	Demo & Practical Sessions	1) Jason van Gumster Robert Shimonski, GIMP Bible, Wiley Publishing, 2010. 2) https://docs.gimp.org/2.10/en/ 3) User’s Guide Mathcad 14	Hands on & Slip Test
Sep 27 – Oct 3, 2024	C.A. Test – II (UNIT 2 TILL SEC 2.2 & UNIT 5)			
Oct 4 – 5, 2024 (Day 5 & 6) (3 hours)	Unit 2 -Multimedia: GIMP 2.3 Cont... Using Animation Tools Unit 3 Mathematical Software: MATHCAD 3.2 Computational Features: Calculations – Operators – Built-in functions – Vectors, Matrices and Data Arrays	Demo & Practical Sessions	1) Jason van Gumster Robert Shimonski, GIMP Bible, Wiley Publishing, 2010. 2) https://docs.gimp.org/2.10/en/ 3) User’s Guide Mathcad 14	Hands on & III Component Minor Project on Unit IV & V (25 marks)
Oct 7 - 15, 2024 (Day Order 1 to 6) (6 hours)	Unit 2 -Multimedia: GIMP 2.3 –Using GAP Unit 3 Mathematical Software: MATHCAD 3.3 Symbolic Calculations	Demo & Practical Sessions	1) Jason van Gumster Robert Shimonski, GIMP Bible, Wiley Publishing, 2010. 2) https://docs.gimp.org/2.10/en/ 3) User’s Guide Mathcad 14	Hands on & Slip Test
Oct 16 - 22, 2024 (Day Order 1 to 6) (6 hours)	Unit 2 -Multimedia: GIMP 2.3 –Cont..Using GAP Unit 3 Mathematical Software: MATHCAD 3.4 Graphing: 2D plots and 3D plots	Demo & Practical Sessions	1) Jason van Gumster Robert Shimonski, GIMP Bible, Wiley Publishing, 2010. 2) https://docs.gimp.org/2.10/en/ 3) User’s Guide Mathcad 14	Hands on & Slip Test
Oct 23 - 24, 2024 (Day Order 1 to 2) (2 hours)	REVISION			

