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| **Course code** | 3AC | **TITLE OF THE COURSE** | **L** | **T** | **P** | **C** |
| **ALLIED PAPER III** | **MATHEMATICS FOR BUSINESS** | **3** | **-** | **-** | **3** |
| **Pre-requisite** | **Basics knowledge on Mathematics for Business** | **Syllabus Version** | **2025** |
| **Course Objectives:** |
| The main objectives of this course are to:1. Understand and apply basics of applications of mathematics in business
2. Make the students to be ready for solving business problems using mathematical operations.
3. Provide insight knowledge about variables, constants and functions.
4. Gain the knowledge on integral calculus and determining definite and indefinite functions.
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| **Expected Course Outcomes:** |
| On the successful completion of the course, student will be able to: |
| 1 | Understand the basic concepts of arithmetic and geometric series and. | K2 |
| 2 | To remember the methods for solving problems in arithmetic and geometric series | K1 |
| 3 | Aware of variables, constants and functions and evaluate the first and second order derivatives. | K2 |
| 4 | To gain knowledge on integral calculus and determining definite and indefinite functions. | K4 |
| **K1** - Remember; **K2** - Understand; **K3** - Apply; **K4** - Analyze; **K5** - Evaluate; **K6**– Create |
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| **Unit:1** | **SET THEORY** | **8 hours** |
| Set Theory – Simple and Compound Interest – Effective rate of Interest  |
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| **Unit:2** |  **ARITHMETIC AND GEOMETRIC SERIES** | **9 hours** |
| Arithmetic and Geometric series-problems |
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| **Unit:3** | **MATRIX** | **9 hours** |
| Matrix: Basic Concepts – Addition and Multiplication of Matrices – Inverse of a Matrix – Rank of Matrix - Solution of Simultaneous Linear Equations  |
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| **Unit:4** | **VARIABLES, CONSTANTS AND FUNCTIONS** | **9 hours** |
| Variables, Constants and Functions – Limits of Algebraic Functions – Simple Differentiation of Algebraic Functions – Meaning of Derivations – Evaluation of First and Second OrderDerivatives – Maxima and Minima – Application to Business Problems |
| **Unit:5** | **ELEMENTARY INTEGRAL CALCULUS** | **8 hours** |
| Elementary Integral Calculus – Determining Indefinite and Definite Integrals of simple Functions  |
| **Unit:6** | **CONTEMPORARY ISSUES** | **2 hours** |
|  Expert lectures, online seminars – webinars |
|  | **Total Lecture hours** | **45 hours** |
| **Text Book(s)** |
| 1 | Navanitham, P.A,” Business Mathematics & Statistics” Jai Publishers,Trichy-21 |
| 2 | Sundaresan and Jayaseelan,”Introduction to Business Mathematics”,Sultanchand Co&Ltd,Newdelhi |
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| **Reference Books** |
| 1 | G.K.Ranganath, C.S.Sampamgiram&Y.Rajan-A Text book Business Mathematics - Himalaya Publishing House. |
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| **Related Online Contents [MOOC, SWAYAM, NPTEL, Websites etc.]** |
| 1 | <https://www.youtube.com/watch?v=qO1SYFZVmhY> |
| 2 | [https://www.youtube.com/watch?v=LadYhkiVC7Q&list=PLRYPMG3pkUJuucxOLmnRC](https://www.youtube.com/watch?v=LadYhkiVC7Q&list=PLRYPMG3pkUJuucxOLmnRC-Lj3PmzVmKCD)[-Lj3PmzVmKCD](https://www.youtube.com/watch?v=LadYhkiVC7Q&list=PLRYPMG3pkUJuucxOLmnRC-Lj3PmzVmKCD) |
| 3 | [https://www.youtube.com/watch?v=qO1SYFZVmhY&list=PLX2gX-](https://www.youtube.com/watch?v=qO1SYFZVmhY&list=PLX2gX-ftPVXUYjs2g3YiaY0sEfwW-jg5L) [ftPVXUYjs2g3YiaY0sEfwW-jg5L](https://www.youtube.com/watch?v=qO1SYFZVmhY&list=PLX2gX-ftPVXUYjs2g3YiaY0sEfwW-jg5L) |
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| Course Designed By: Dr.A.Manonmani and Dr I. Mohammed Ali Jaffer |
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| **Mapping with Programme Outcomes** |
| **COs** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** |
| **CO1** | S | S | S | S | M |
| **CO2** | S | S | M | S | S |
| **CO3** | M | S | S | S | S |
| **CO4** | S | S | S | M | M |
| **CO5** | M | M | S | S | S |

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| **Course code** |  4AD |  | **L** | **T** | **P** | **C** |
| **Allied IV** | **STATISTICSFORBUSINESS** | **3** | **-** | **-** | **3** |
| **Pre-requisite** | **Basic knowledge on Statistics for Business** | **Syllabus****Version** | 2025-2026 |
| **Course Objectives:** |
| The main objectives of the course are to1. Provide basic conceptual knowledge on applications of statistics in business.
2. Make the students to be ready for solving business problems using statistical operations.
3. Give a detailed instruction of measurs of dispersion.
4. Gain the knowledge on application of correlation and regression for business operations.
5. Analyze interpolation and probability theory and perform the problems.
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| **Expected Course Outcomes:** |
| On the successful completion of the course ,student will be able to: |
| 1 | Understand the basic concepts of arithmetic and geometric mean andDifferent types of data collection. | K2 |
| 2 | Recall measures of dispersion. | K1 |
| 3 | Execute correlation and regression analysis. | K3 |
| 4 | Understand the different types of moving averages. | K2 |
| 5 | Analyze interpolation and probability | K4 |
| **K1**-Remember;**K2**-Understand;**K3** -Apply;**K4**-Analyze;**K5**-Evaluate;**K6**-Create |
|  |
| **Unit:1** | **INTRODUCTIONS** | **9 hours** |
| Meaning and Definition of Statistics – Collection of data –– Primary and Secondary –Classification and Tabulation–Diagrammatic and Graphical representation -Measures of Central tendency–Mean, Median, Mode, Geometric Mean and Harmonic Mean –simple problems |
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| **Unit:2** | **MEASURES OF DISPERSION** |  **9 hours** |
| MeasuresofDispersion–Range,QuartileDeviation,MeanDeviation,StandardDeviation andCo-efficientofVariation.Skewness–Meaning–MeasuresofSkewness-Pearson’sandBowley’sco-efficient of Skewness. |
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| **Unit:3** | **CORRELATION ANALYSIS** |  **9 hours** |
| Correlation –Meaning and Definition –Scatter diagram, Karl Pearson’s co-efficient of Correlation, Spearman’s Rank Correlation. |
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| **Unit:4** | **REGRESSION ANALYSIS** |  **8 hours** |
| Regression Analysis – Meaning of regression and linear prediction – Regression in two variables – Uses of Regression |

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| **Unit:5** | **INTERPOLATION** |  **8 hours** |
| Interpolation:Binomial, Newton’s and Lagrange methods.Probability–Concept and Definition–Addition theorem of Probability(statementonly)–simple problems based on Addition theorem only. |
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| **Unit:6** | **CONTEMPORARYISSUES** | **2hours** |
| Expert lectures, online seminars–webinars |
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|  | **TotalLecturehours** |  **45 hours** |
| **TextBook(s)** |
| 1 | Statistical Methods by S.P.Gupta |
| 2 | Business Mathematics and Statistics byP.Navaneetham |
| 3 | Statistics byR.S.N.Pillai and V.Bagavathi |
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| **ReferenceBooks** |
| 1 | Statistics-Theory, Methods &Application by D.C.Sancheti andV.K.Kapoor |
| 2 | Applied General Statistics by FrederickE.Croxton and Dudley J. Cowden |
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| **RelatedOnlineContents[MOOC,SWAYAM, NPTEL,Websitesetc.]** |
| 1 | <https://www.youtube.com/watch?v=BUE-XJEHp7g> |
| 2 | [https://www.youtube.com/watch?v=0s4mKbkYJPU&t=1s](https://www.youtube.com/watch?v=0s4mKbkYJPU&amp%3Bt=1s) |
| 3 | htt[ps://www.youtube.com/watch?v=Dxcc6ycZ73M](http://www.youtube.com/watch?v=Dxcc6ycZ73M) |
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| CourseDesignedBy: Dr.A.Manonmani and Dr.E.Tamilmani |

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| **MappingwithProgrammeOutcomes** |
| **COs** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** |
| **CO1** | S | S | S | S | M |
| **CO2** | S | S | M | S | S |
| **CO3** | M | S | S | S | S |
| **CO4** | S | S | S | M | M |
| **CO5** | M | M | S | S | S |