| Semester | Course Code | Course Category | Hours | Credits | Marks for Evaluation | | |
|---|---|---|---|---|---|---|---|
| | | | | | CIA | ESE | Total |
| III | 23UMAVAC1 | Value Added Course -I | 30 | - | - | 100 | 100 |
| | | | | | | | |
| **Course Title** | Actuarial Science | | | | | | |

| SYLLABUS | | |
|---|---|---|
| **Unit** | **Contents** | **Hours** |
| **I** | Simple interest- the time between dates. | **6** |
| **II** | Equations of value-partial payments. | **6** |
| **III** | Simple discount-promissory notes. | **6** |
| **IV** | Compound interest- accumulated values- compound interest tables. | **6** |
| **V** | Present values- nominal and effective rates of interest- discount and discounted values. | **6** |

**Text Books:**

1. Peter Zima and Robert L.Brown, Mathematics of Finance, Tata McGraw-Hill Publishing Company Limited, Second edition ,2005.
2. Foundation of Actuarial Science (IC-28), Study Material Published by Insurance Institute of India, Reprinting February 2017.

| | | |
|---|---|---|
| Unit I | Chapter 3 Section 3.1 & 3.2 | T.B1 |
| Unit II | Chapter 3 Section 3.3 & 3.4 | T.B1 |
| Unit III | Chapter 3 Section 3.5 & 3.6 | T.B1 |
| Unit IV | Chapter 1 Section 1 to 3 | T.B2 |
| Unit V | Chapter 1 Section 4 to 7 | T.B2 |

**Reference Book:**

MC Cutchoon and Scoot, An introduction to the Mathematics of Finance, Hoinenmann Professional Publishing, 2013.

**Web Resource:**

**https://onlinecourses.nptel.ac.in/noc20_me36/preview**

| Course Outcomes | | |
|---|---|---|
| Upon successful completion of this course, the student will be able to: | | |
| **CO No.** | **CO Statement** | **Cognitive Level (K-Level)** |
| **CO1** | Remember the basic concepts of simple interest | **K1** |
| **CO2** | Understand the simple discount, equivalent rates. | **K2** |
| **CO3** | apply the mathematical idea of compound interest- accumulated values with examples | **K3** |
| **CO4** | analyse the present values and its nominal and effective rates of interest | **K4** |
| **CO5** | evaluate the discount and discounted values from the given present values | **K5** |

**Course Coordinator:** Dr. A. Prasanna

| Semester | Course Code | Course Category | Hours | Credits | Marks for Evaluation | | |
|---|---|---|---|---|---|---|---|
| | | | | | CIA | ESE | Total |
| V | 23UMAVAC2 | Value Added Course -II | 30 | - | - | 100 | 100 |
| | | | | | | | |
| **Course Title** | Aptitude & Reasoning | | | | | | |

| SYLLABUS | | |
|---|---|---|
| **Unit** | **Contents** | **Hours** |
| **I** | Number System– H.C.F and L.C.M of Numbers – Decimal Fractions – Simplification – Square Roots and Cube Roots. | **6** |
| **II** | Average- Problems on Numbers – Problems on Ages- Surds and Indices. | **6** |
| **III** | Percentage – Profit and Loss- Ratio and Proportion. | **6** |
| **IV** | Partnership- Chain Rule - Pipes and Cisterns- Time and Work. | **6** |
| **V** | Number Series- Alphabet Series – Alpha – Numeric Series, Analogy- Completing the Analogous Pair- Direct Analogy- Blood Relations. | **6** |

**Text Books:**

1. Dr. R.S. Aggarwal, Quantitative Aptitude, S. Chand and Company Ltd, Revised edition (2017).
2. Dr. R.S. Aggarwal, A Modern Approach to Verbal & Non-Verbal Reasoning, Revised Edition, S. Chand and Company Ltd, (2018).

**UNIT I** Chapters 1 to 5 T.B1
**UNIT II** Chapters 6 to 9 T.B1
**UNIT III** Chapters 11 to 13 T.B1
**UNIT IV** Chapters 14 to 17 T.B1
**UNIT V** Chapters 1,2,4 Section I T.B2

**Reference Book:**

1. Dinesh Khattar, The Pearson Guide to Quantitative Aptitude for Competitive Examinations, 2nd Edition, Pearson, 2013.

**Web Resource:**

https://www.btechguru.com/courses/Quantitative-Aptitude~fbfd40c4eaf687e2.html

| Course Outcomes | | |
|---|---|---|
| Upon successful completion of this course, the student will be able to:- | | |
| **CO No.** | **CO Statement** | **Cognitive Level (K-Level)** |
| **CO1** | remember the fundamentals of number system. | **K1** |
| **CO2** | understand H.C.F and L.C.M of numbers, decimal fractions and square roots and cube roots | **K2** |
| **CO3** | apply the concepts of percentage, profit and loss, ratio and proportion in numerical problems. | **K3** |
| **CO4** | analyse the number Series, alphabet series and analogy | **K4** |
| **CO5** | Evaluate blood relations from the given data. | **K5** |

**Course Coordinator:** Mr. N. Mohamed Thoiyab.

| Semester | Course Code | Course Category | Hours | Credits | Marks for Evaluation | | |
|---|---|---|---|---|---|---|---|
| | | | | | CIA | ESE | Total |
| III | 23PMAVAC1 | Value Added Course -I | 30 | - | - | 100 | 100 |
| | | | | | | | |
| **Course Title** | Aptitude & Reasoning | | | | | | |

| SYLLABUS | | |
|---|---|---|
| **Unit** | **Contents** | **Hours** |
| **I** | Number System– H.C.F and L.C.M of Numbers – Decimal Fractions – Simplification – Square Roots and Cube Roots. | **6** |
| **II** | Average- Problems on Numbers – Problems on Ages- Surds and Indices. | **6** |
| **III** | Percentage – Profit and Loss- Ratio and Proportion. | **6** |
| **IV** | Partnership- Chain Rule - Pipes and Cisterns- Time and Work. | **6** |
| **V** | Number Series- Alphabet Series – Alpha – Numeric Series, Analogy- Completing the Analogous Pair- Direct Analogy- Blood Relations. | **6** |

**Text Books:**

1. Dr. R.S. Aggarwal, Quantitative Aptitude, S. Chand and Company Ltd, Revised edition (2017).
2. Dr. R.S. Aggarwal, A Modern Approach to Verbal & Non-Verbal Reasoning, Revised Edition, S. Chand and Company Ltd, (2018).

**UNIT I** Chapters 1 to 5 T.B1
**UNIT II** Chapters 6 to 9 T.B1
**UNIT III** Chapters 11 to 13 T.B1
**UNIT IV** Chapters 14 to 17 T.B1
**UNIT V** Chapters 1,2,4 Section I T.B2

**Reference Book:**

1. Dinesh Khattar, The Pearson Guide to Quantitative Aptitude for Competitive Examinations, 2nd Edition, Pearson, 2013.

**Web Resource:**

https://www.btechguru.com/courses/Quantitative-Aptitude~fbfd40c4eaf687e2.html

**Course Outcomes**

Upon successful completion of this course, the student will be able to:-

| CO No. | CO Statement | Cognitive Level (K-Level) |
|---|---|---|
| **CO1** | remember the fundamentals of number system. | **K1** |
| **CO2** | understand H.C.F and L.C.M of numbers, decimal fractions and square roots and cube roots | **K2** |
| **CO3** | apply the concepts of percentage, profit and loss, ratio and proportion in numerical problems. | **K3** |
| **CO4** | analyse the number Series, alphabet series and analogy | **K4** |
| **CO5** | Evaluate blood relations from the given data. | **K5** |

**Course Coordinator:** Mr. N. Mohamed Thoiyab.