

## PEA305:ANALYTICAL SKILLS-I

L:2 T:1 P:0 Credits:3

**Course Outcomes:** Through this course students should be able to

CO1 :: apply the procedural fluency with number system and mathematical operations to solve the stated problems

CO2 :: determine an appropriate approach to solve problems related to percentage and profit & loss

CO3 :: analyze the data given and interpret the number and alphanumeric series

CO4 :: use the analytical concepts to solve the questions of ratio and proportion

CO5 :: apply the concepts of permutation, combination and probability to solve related problems

CO6 :: analyze the reasoning aptitude problems such as blood relation and direction sense to solve related problems

### Unit I

**Vedic maths** : fast calculation techniques

**Number system** : classification of numbers, divisibility rules, factorials, unit digit calculation, number of factors, remainder theorems, HCF & LCM

**Average** : average calculations, inclusion and exclusion, weighted average

### Unit II

**Percentage** : calculation of percentages, percentage comparison, percentage to fraction conversion, successive percentage change, problems based on marks, election, population and percentage error

**Profit loss discount** : concept of cost price, selling price and marked price, calculations of profit and loss percentage, problems on discount, faulty weights, number of articles, and common selling price

**Simple and compound interest** : concept of interest calculation, comparison of simple and compound interest, compounding based problems on depreciation and growth

### Unit III

**Logical reasoning** : number series, alphabet series, alphanumeric series, alphabet test, coding and decoding, language coding

### Unit IV

**Ratio and proportions** : concept of ratio and proportion, problems based on ages and partnership

**Alligation and mixtures** : concept based question of alligation and mixtures, replacement based questions

### Unit V

**Permutation and combination** : principles of counting, problems based on selection, arrangement, numbers, words, rank and distribution, geometric application, circular arrangement

**Probability** : concept of probability, classification of events, problems based on coins dices and cards, conditional probability

### Unit VI

**Analytical reasoning** : blood relations, direction sense test

### Text Books:

1. ANALYTICAL SKILLS-I by S. CHAND EXPERTS, S Chand Publishing

### References:

1. QUANTITATIVE APTITUDE FOR COMPETITIVE EXAMINATIONS by DR.R.S. AGGARWAL, S Chand Publishing
2. A MODERN APPROACH TO VERBAL AND NON-VERBAL REASONING by DR. R.S. AGGARWAL, S Chand Publishing

