

## PEA305:ANALYTICAL SKILLS-I

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

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

- CO1 :: demonstrate procedural fluency with number system and mathematical operations to solve the stated problems.
- CO2 :: select an appropriate approach to solve problems related to percentage, profit and loss.
- CO3 :: observe the data given and interpret given number and alphanumeric series
- CO4 :: apply the analytical concepts learnt to solve the questions of ratio and proportion
- CO5 :: use the concepts of permutation, combination and probability to handle various problems.
- CO6 :: analyze the reasoning aptitude problems such as blood relation and direction sense to solve related problems.

### Unit I

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

**Simplification and approximation** : BODMAS rule, calculation and approximation based on percentage, problem based on digit sum

**Average** : basic average calculations, average increase and decrease, weighted average

### Unit II

**Percentage** : basic percentage calculations, percentage to fraction, percentage comparison, percentage increase and decrease, population change in percentage

**Profit loss discount** : basic concepts of cost price selling price and marked price, calculations of profit and loss percentage, types of discount and discount percentages, comparison of profit or loss with discount percentage

**Simple and compound interest** : basic concepts of interest calculations, comparison of simple and compound interest

### Unit III

**Logical reasoning** : number series with introduction of AP and GP, alphabet series, alphabet test, coding and decoding, language coding

### Unit IV

**Ratio and proportions** : basic concepts of ratio and proportions and ages, problems based on ratio and proportions and ages, problems based on partnerships and profit sharing

**Alligation and mixtures** : conceptual knowledge of alligation and mixtures, problems based on alligation and mixtures

### Unit V

**Permutation** : basic principle of counting, numerical permutation(formation of numbers and sum of numbers), alpha permutation(rearrangement of words and rank of a word), linear and circular permutation, logical permutation

**Combination** : basic formulas of combination, formation of committee, combination of identical objects

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

### Unit VI

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

### Text Books:

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

### References:

1. MAGICAL BOOK ON QUICKER MATHS by M.TYRA, BANKING SERVICE CHRONICLE
2. MAGICAL BOOK SERIES ANALYTICAL REASONING by M.K. PANDEY, BANKING SERVICE CHRONICLE

