

## PEA515:ANALYTICAL SKILLS-I

L:2 T:2 P:0 Credits:4

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

CO1 :: employ the concepts learnt to solve the basic mathematical questions like Mathematical operations.

CO2 :: use the concepts of alligation or mixture to interpret and handle different situations.

CO3 :: outline the analytical methods in deciphering the data and decision making in syllogism and data interpretation

CO4 :: articulate an appropriate approach to initiate the problems related to logical reasoning like blood relation

CO5 :: illustrate the concepts of ratio and proportions, to utilise in real life situations

### Unit I

**Number system** : classification of numbers, rules of divisibility, multiplication and squaring of numbers, HCF & LCM of numbers, cyclicity of unit digit, remainder theorem

**Average** : average of numbers, arithmetic mean, weighted average

**Mathematical operations** : BODMAS rule, calculation based problem, conversion of symbols into signs

### Unit II

**Percentage** : commodity price increase/decrease, comparison based questions, population based examples, successive percent changes, budget based problems

**Profit and Loss** : cost price, selling price, profit and loss, calculation of profit/loss percent, false weight, discount, successive discount, marked price

### Unit III

**Direction sense test** : understanding of directions, different types of practice problems

**Blood Relations** : cracking jumbled up descriptions, relation puzzle, coded relations

**Number, Ranking and Time Sequence Test** : number test, ranking test, time sequence test

### Unit IV

**Ratio and Proportion** : ratio and its types, proportion and its types, direct and indirect variations, partnership

**Alligation or mixture** : concept and rules of alligation, problem based on mixing of liquids/items

**Problems on Ages and Numbers** : problems on ages, problem on numbers

### Unit V

**Permutations and Combinations** : factorial, difference between permutation & combinations, circular permutation, arrangement and selection based problems, distribution and division

**Probability** : experiment, sample space, event, probability of occurrence of an event, bayes theorem, odds of an event , selection based problems, binomial distribution

### Unit VI

**Logical venn diagram and set theory** : venn diagram based problems, concept of set theory

**Syllogism** : all, some and none relations, related statements with venn diagram

**Data interpretation** : basics of data interpretation, average and percentage, tabulation, bar graphs, pie charts, line graphs

### Text Books:

1. QUANTITATIVE APTITUDE FOR COMPETITIVE EXAMINATIONS by DR. R S AGGARWAL, S Chand Publishing
2. A MODERN APPROACH TO VERBAL & 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. ANALYTICAL REASONING by M.K. PANDEY, BANKING SERVICE CHRONICLE

