PEA307:ADVANCED 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 :: explore the concepts learned to solve various questions of profit & loss and interest

CO3 :: evaluate the data given and interpret it for solving coding and decoding problems

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

CO5 :: employ the concepts of permutation and combination to solve probability-based questions

CO6 :: analyze the logical reasoning aptitude problems related to blood relations and directions to solve accordingly

Unit I

Number system : factors, factorials, unit digit calculation, remainder properties, advanced number based questions, HCF & LCM

Average : inclusion and exclusion related questions, missing number questions, questions based on cricket

Linear quadratic equations : statement based questions, roots of the quadratic equation

Unit II

Percentage : percentage to fraction, population change in percentage, percentage increase and decrease, questions based on examination and election

Profit loss discount : concepts of cost price selling price and marked price, successive discount, questions based on selling an article and interchanging its values, dishonest seller related questions

Simple and compound interest : concepts of interest calculations, questions based on the difference between CI and SI, EMI calculations

Unit III

Logical reasoning : flow chart

Analytical reasoning : coding and decoding, number, alphabet series questions, language coding questions

Unit IV

Ratio & proportions : questions based on addition, difference and product, questions based on income and expenditure, questions based on coins and rupees, 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 : counting method, numerical permutation(formation of numbers and sum of numbers), alpha permutation(rearrangement of words and rank of a word), logical permutation, linear and circular permutation

Combination : formulas of combination, combination of identical objects, distribution based questions, formation of committee

Probability : classification of events, conditional probability, problems based on coins dices and cards, PnC based probability questions

Unit VI

Logical reasoning 1 : visual reasoning: mirror/water image, paper cutting and folding, completion of the figure, embedded figure, deviation of figure

Analytical reasoning 1 : direction sense : questions based on determining directions & distance, blood relation: question based on english alphabet problem, question based on word problem

Text Books:
1. QUANTITATIVE APTITUDE FOR COMPETITIVE EXAMINATIONS by DR.R.S. AGGARWAL, S. CHAND & COMPANY

2. A MODERN APPROACH TO VERBAL AND NON-VERBAL REASONING by DR. R.S. AGGARWAL, S. CHAND & COMPANY

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