

45. Quantitative Aptitude and Reasoning (Syllabus 1)

Title: QUANTITATIVE APTITUDE AND REASONING

Target group: Open for all (Arts, Science and Commerce)

Theory: 2 credit; Practical: 1 credit

Learning Objective(s):

The course is designed for all in view of assessing cognitive abilities of students in various competitive examinations. Therefore, it is desired that a Graduate must possess cognitive skill attributes to pursue further avenues in higher education and other sectors. This Skill Enhancement Course is expected to enhance employability of students pursuing FYUGP.

The main objective of the course are as follows,

1. Students will develop skills to prepare themselves for the competitive world for better job opportunities
2. Efforts will be made to accommodate fundamental and mathematical aspects to instil confidence among students
3. Students will enrich their knowledge and develop their logical reasoning thinking ability
4. Students will know the tricks and methods to solve quantitative and reasoning problems with accuracy and in a time-bound manner

Course Outcome(s):

On successful completion of the Course, students are expected to

1. Develop cognitive abilities
2. Build analytical skills
3. Understand the structure of arguments and reasoning
4. Solve problems efficiently in less time

Unit-wise Syllabus

THEORY

Unit I – (4 hours)

MENTAL ABILITY

Number System, Ages, Averages, Time and Calendar, Speed and Distance

Unit II – (6 hours)

NUMERICAL APTITUDE

Ratios and Proportions, Profit and Loss, Simple and Compound Interest

Unit III - (7 hours)

LOGICAL REASONING

Alphanumeric series, Blood relations, Directions, Seating Arrangement, Deductive-Inductive Reasoning, Coding-Decoding

Unit IV - (5 hours)

DATA HANDLING

Data: meaning, types, sources; Data Representation using Diagrams and Charts; Data Interpretation, Data sufficiency

PRACTICAL

Practical Worksheet

(22 hours)

Problem-solving questions on,

1. Age
2. Speed and Distance
3. Averages
4. Family-tree
5. Ratios and Proportions
6. Coding-Decoding
7. Time and Calendar
8. Simple Interest
9. Compound Interest
10. Profit and Loss
11. Seating Arrangement
12. Inductive reasoning
13. Deductive reasoning
14. Directions
15. Alphanumeric series
16. Construction of various Diagrams and Charts
17. Interpretation of various Diagrams and Charts
18. Data sufficiency

Reference(s):

1. Aggarwal, R.S, "Quantitative Aptitude for Competitive Exams", S.Chand
2. Tyra, M., "Quicker Maths", BSC Publishing Co. Pvt. Ltd.
3. Trueman's Specific Series "UGC NET/SET"

(Syllabus 2)

Skill Enhancement Course 4: Quantitative Aptitude (Offered by the Department of Mathematics)

Open for All

Duration: 24 Hours

Unit 1: Vedic Mathematics (4 hrs)

Multiplication, Square and Square Roots, Cube and Cube Roots, Relation Between Percentage and Reciprocals

Unit 2: Numbers (6 hrs)

HCF & LCM, Averages, Equation, Inequalities

Unit 3: Percentage (6 hrs)

Profit, Loss and Discount, Simple and Compound Interest

Unit 4: Time, Speed, and Distance (4 hrs)

Boats & Streams (Upstream and Downstream Motion), Train Problems, Race Problems

Unit 5: Indices and Logarithms (4 hrs)

Surds, Age Problems Ratio & Proportion

Unit 6: Geometry (4 hrs)

Unit 7: Clocks (4 hrs)

Partnership, Alligation, Progression

Unit 8: Chain Rule (4 hrs)

Time & Work, Pipes & Cisterns

Reference books:

1. Quantitative aptitude for Competitive examination By R S Agarwal
4. Magical Book on Quicker Maths by M. Tyra
