Subject Code: 01CR0503

Subject Name: Quantitative & Logical Ability - 3

B.Tech.Year III – (Semester V)

Objective:
This course shall enrich students' preparedness for the upcoming competitive exams, entrance test, and/or placements. This course will also enhance students' logical skills, decision making skill, and comprehension skill.

Credits Earned: 0 Credit

Course Outcomes: After completion of this course, students will be able to:

1) Inculcate smart approach in quantitative problem solving.

2) Build a strong base in the fundamental mathematical concepts.

3) Grasp the approaches and strategies to solve problems with speed and accuracy.

4) Devise plans for QA domain of the placement drives and competitive exams

5) Categorize various types of questions in terms of difficulty levels

Pre-requisite of course: Basic Knowledge of Mathematics

Teaching and Examination Scheme:

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial / Practical Marks		Total Marks
				E	I		V	T	
Theory	Tutorial	Practical		ESE	IA	CSE	Viva	Term Work	
1	0	0	0	50	0	0	0	50	100

Contents:

Unit	Topics (Quantitative Aptitude)	Contact Hours
1	Introduction and Pre-Test	1

2	Percentage
	    Sub topics: Reciprocals & equivalent percentage
	    Speed techniques of calculating percentage
	    Change of base concept
	    Multiplying factor concept
		1

3	Profit, Loss & Discount
	    Sub topics: Explanation of basic terms
	    Simple profit & loss concept
	    Discount & multiple discount concept
	    Faulty balance & wrong measurement, discount or mark up or mixing impurities
	    Other combined examples
		1

4	Simple Interest & Compound Interest
	    Sub topics: Important formulae & Calculation
	    Calculation of missing value concept
	    Difference between SI and CI for various years.
	    Comparison of SI and CI investment concept
	    Sub topics: Difference between SI and CI for various years.
	    Comparison of SI and CI investment concept
		1

5	Class Test 1 and doubt solving session	1

6	Ratio and Proportion
	    Sub topics: Ratio & Proportion
	    Ratio concept and rules & distributing amount in ratio
		1

7	Partnership
	    Sub topics: Partnership
	    Partnership ratio and profit distribution
		1

8	Class Test 2 and doubt solving session	1

9	Time & Work
	    Concept of Time, Work & Efficiency
	    Concept of negative work
	    Product constancy
	    Pipes & Cisterns
	    Miscellaneous Examples
		1

10	Time, Speed & Distance
	    Basic formulae & its proportionality
	    Concept of Relative Speed (Same & Opposite directions)
	    Concept of Average Speed
	    Problems on Trains
		2

	Boats & Streams Miscellaneous Examples	

11	Permutations and Combinations
	    Concept of Permutations & Combinations
	    Permutation & combination with conditions
	    Permutation & Combination of identical things
	    Circular Permutation
		1

12	Probability
	    Formula & Basic terms
	    Finding total no. of cases
	    Examples of Coin and Dice
	    Types of events
	    Odds in favour & Odds against
	    Conditional Probability
	    Independent Events
		1

13	Class Test 3 and doubt solving session	1
	Total Hours (A)	**14**

References:

1. **Quantitative Aptitude** – By Dr. R. S. Agarwal, S. Chand, 2021.

2. **Quantitative Aptitude** – By Abhijit Guha, MC Graw Hills, 2020.

3. **Magical Book On Quicker Maths** – By M. Tyra, BSC Publishing Co. Pvt. Ltd, 2013.

4. **Quantum Cat** – By Sarvesh Kumar Verma , Arihant Publication, 2020 July.

Suggested Theory distribution:
The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve an effective teaching-learning process.

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
10%	15%	40%	35%	0%	0%

Instructional Method:

a. The course delivery method will depend upon the requirement of content and need of students.

b. The trainer shall train students through interactions, demonstration, brainstorming, group tasks, assignments and quizzes etc.

c. Students will use supplementary resources such as online videos and books.

d. The trainer shall train students through slides, worksheets and marker board.

Supplementary Resources:

1) www.indiabix.com
2) www.careerbless.com
3) www.allindiaexams.com
4) www.freshersworld.com

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