SN	Program Code:	Course Name: Aptitude	L	T	P	CH	Course Type
1	Course Code:20TDY-302		0	2	0	30	Employability Enhancement Course(EE)
Pre-requisites/ Exposure		20TDT-202/252					
Co-requisites		NA					
Anti-Requisite		NA					

A. COURSE DESCRIPTION

To generate problem solving skills, counting techniques, ability to analyze the situation, demonstrate various principles involved in solving mathematical problems and thereby reducing the time taken for performing job functions with logical thinking and applying decision making in all national and international projects

B. COURSE OBJECTIVES

- To develop analytical and logical thinking and the habit of drawing conclusions based on quantitative information.
- To apply mathematical methodologies to open-ended real-world problems

C. COURSE OUTCOMES

C01	To define, understand the basic knowledge of Numbers, percentage, average, mixture alligations , set theory, Problem on ages and explain the concepts of quantitative aptitude and logical reasoning.
CO2	To apply the concept of Vedic Mathematics to find squares, cubes, roots to solve MCQs faster by the application of shortcut methods and various concepts of LCM and HCF, Unit digit and ten's digit to solve application based problems.
CO3	To apply the percentage fraction table for simplification, basic concepts of profit and loss, blood relation and number series.
C04	To evaluate the data in a bar graph, pie chart and tabular column and line graph and the combination of data given in the graphical format and infer the results.
CO5	To effectively solve problems the problem of bar graphs, histograms, dot plots, remainders & factorials, letters and number series and to develop the analytical skill by analyzing the mirror image, water image, missing image.

D. SYLLABUS

Unit I		20 Hrs
Chapter 1.1	**Vedic maths:** Mental Calculations; How to find square root, cube root, squares, cubes ; Approximations; How to solve tough calculations in less time	
Chapter 1.2	**Classification of numbers:** Number Chart: Real numbers, Imaginary numbers, Rational numbers, Irrational numbers, Integers; Whole numbers & Natural numbers; Odd and Even numbers; Prime and composite numbers; Concept of co-prime pairs	
Chapter 1.3	**LCM & HCF and factors:** Concept of factor & multiple; Concept of LCM and HCF (GCD); Word problems based on HCF & LCM; To find the number of factors of a given number; To find the sum and product of factors of a given number.	

Chapter1.4	**Divisibility and BODMAS:** Concept of quotient, remainder, divisor and dividend; Rule of BODMAS; Basic problems on above	
Chapter 1.5	**Remainder & Factorial:** Concept of finding remainder of complicated index based quotients; Concept of factorial; Highest power of prime number and composite number in a given factorial	
Chapter 1.6	**Unit's digit and ten's digit of higher power:** To find unit digit of higher powers of natural numbers; To find tens digit of higher powers of natural numbers; To calculate last two digits of higher powers of natural numbers	
Unit-2		**20Hrs**
Chapter 2.1	**Percentage:** Concept of percentages; Concept of percentage increasing and percentage decreasing; Concept of successive percentage	
Chapter 2.2	**Profit & loss:** Concept of cost price, selling price and marked price; Fundamentals of profit, loss and discount; Fundamental problems based on above concepts	
Chapter 2.3	**Letter and Symbol series:** How to find the missing term in the jumbled series; How to find the next term in the jumbled series.	
Chapter2.4	**Blood relation:** Concept of symbol representation of blood relations; Family tree based concepts; Basic problems on above mentioned concepts	
Unit-3		**20Hrs**
Chapter 3.1	**Seating Arrangements:** Problem on linear arrangements; Problems on Circular arrangements	
Chapter 3.2	**Analytical Reasoning:** To analyse the given figure; Find the mirror images and water images; Finding missing term after analysing the given data	
Chapter 3.3	**Non Verbal Reasoning:** Finding the pattern for next figure; Finding missing figure; Finding the missing images; Problems on cutting and folding paper.	
Chapter 3.4	**Input Output:** Understanding the logic of given steps of input to get required output	
Chapter 3.5	**Data Interpretation:** Analyse data in Tabular representation, 2-D, 3-D, Venn diagram based DI questions, Miscellaneous	
Chapter 3.6	**Symboperations:** Concept of inequalities; Concept of using either the real symbols or substituted symbols.	
Chapter 3.7	**Eligibility Test:** To decide among the given alternatives after assessing the given data for eligibility of candidate	
Chapter 3.8	**Problem on Ages:** Application of concept of ratio on problems of ages related to past and future; Understanding of linear equations; Application of shortcut tricks	
Chapter 3.9	**Partnership:** Dividing profit into ratio of investments; Partial time related problems	
Chapter 3.10	**Set theory:** Introduction of Venn diagrams; Application of Venn diagrams in different problems; Properties of sets and different operators	
Chapter 3.11	**Ratio, Proportion and Variation:** Concept of ratio; Concept of proportion; Combining ratios; Word problems on ratios; Concept of Direct & Indirect variation between two variable; Equating the constant of variation	
Chapter 3.12	**Average and Weighted Average:** Concept of Mean, Different type of mean- Arithmetic, Geometric, Harmonic; Application of means while taking averages in different types of questions	
Chapter 3.13	**Mixture and Alligation:** Concept of Alligation; Concept of mixing two or more things; Continuous replacement problem	
Chapter 3.14	**Simple and Compound Interest:** Concept of simple & compound interest; Fundamental problems on it	

E. TEXT BOOKS

1	CU-DCDP – Acing Quantitative Aptitude for Campus Placements - Part I	**8th Edition**	**2022**
2	CU-DCPD – Acing Reasoning Ability for Campus Placements	**5th Edition**	**2022**
3	CU-DCPD – Interpreting Data for Campus Placements	**5th Edition**	**2022**
4	CU-DCPD – Deciphering Data Sufficiency for Campus Placements	**3rd Edition**	**2022**

F. REFERENCE BOOKS

1	Guha Abhijit: Quantitative Aptitude for Competitive Examinations , Tata McGraw Hill Publication	**8th Edition**	**2020**
2	Aggarwal R.S: A Modern Approach to Verbal and Non Verbal Reasoning 2012	**10th Edition**	**2020**

G. ASSESSMENT PATTERN: INTERNAL & EXTERNAL

Aptitude			
Components	**Internal Assessment**	**Mid Term Assessment**	**End Term Assessment**
Marks	20	20	60
Total Marks	100		

Internal Evaluation Component:					
Sr. No.	**Type of Assessment Task**	**Weightage of actual Conduct**	**Frequency of task**	**Final weightage in internal Assessment(Prorated Marks)**	**Remarks**
1	Assignment	12 marks	1 Per Unit	6 marks	
2	Quiz	6 marks	2 Per Unit	6 marks	
3	Surprise Test	12 marks	1 per Unit	4 marks	
4	HomeTask	NA	1 per lecture topic (of 20 MCQ)	Non-Graded: Engagement Task	
5	Discussion Forum	NA	1 per Unit	Non-Graded: Engagement Task	
6	Attendance and Engagement Score on BB	NA	NA	4 marks	
7	Mid-Semester Test	20 marks for one MST.	2 Per semester	20 marks	

H. CO-PO Mapping

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3				3									
CO2	3				2									
CO3	2				3									
CO4	3				3									
CO5	3				2									

Syllabus Designed By		**Approved By**
Name with Employee Code		**Director (DCPD)**