

A. Course Handout (For Students & Faculty)

Institute/School/College Name	Chitkara University Institute of Engineering & Technology		
Department/Centre Name	Department of Computer Science & Engineering		
Programme Name	Bachelor of Engineering (B.E.)-Computer Science & Engineering		
Course Name	Numerical Ability and Logical Reasoning	Session	2023-24
Course Code	GE 101	Semester/Batch	6 th /2021
Lecture/Tutorial (Per Week)	8-0-0	Course Credit	04
Course Coordinator Name	Dr. Suhaib Ahmed Batt		

1. Objectives of the Course:

The course is an aid to students for accomplishing placements especially the aptitude examination. On the other hand, an Enhanced aptitude development administers a good sense of decision making and reasoning under the tutelage of the dedicated mentors.

2. Course Outcome:

After completion of the course, students will be able to do the following:

CO1: Student will be able to improve answers during the Aptitude test and develop an all-around personality with a mature outlook.

CO2: Student will be able to attempt the numerical problems related to long calculations within quick timespan and without using thumb rules.

CO3: Student will be able to enhance their logical thinking, verbal reasoning and numerical reasoning.

CO4: Students will take part effectively and confidently not only in campus placements programs but also in other exams like CAT, GMAT, SSC, Bank Po, UPSC etc.

CO-PO mapping grid Program Outcomes (POs) are available as a part of Academic Program Guide (APG)

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	M	M	M	H		H				M		M
CO2	H	M	H	H			M					M
CO3	H	M	H	H	M	H	M			M	M	
CO4	H	M	M	H		M					H	H

3. Recommended Books (Reference Books/Text Books):

RB1: Quantitative Aptitude & Verbal – Nonverbal Reasoning by R.S. Aggarwal, Quantum Cat by Arihant Publications. 2020.

RB2: Arun Sharma, How to Prepare for Logical Reasoning, Mc Graw Hill education publication, latest Edition, 2020.

4. Other readings & relevant websites

S.No.	Link of Journals, Magazines, websites and Research Papers
1.	Aptitude - Overview (tutorialspoint.com)
2.	Aptitude test (slideshare.net)
3.	Logical Reasoning - Topics, Examples and Questions & Answers (byjus.com)

5. Course Plan:

Lecture Number	Topics	Reference Books
1-8	Number System H.C.F & L.C.M Average Distance and Direction Blood Relation	RB1
9-20	Ratio Problem on Ages Partnership Allegation Analogy Venn diagram Syllogism Classification	RB1
21-29	Introduction to Percentage Simple Interest Mathematical Coding – Decoding Alphabet Test	RB1, RB2
ST 1 (Syllabus covered from Lecture 1 – Lecture 29)		
30-45	Compound Interest Profit and Loss Discount Problem on Ages Series	RB1, RB2
46-60	Work and Time Work and Wages Pipes and Cistern Cube and Dice Missing number Ranking Clock Calendar	RB1, RB2
61- 70	Time speed and distance The Train Boat and stream Inequalities and MACHINE I/P and O/P	RB1, RB2
71-80	P and C Introduction Probability Puzzle	RB1, RB2

81-90	D.I Statement –Argument, Statement- course of Action Sitting Arrangement	RB1, RB2
ST 2 (Syllabus covered from Lecture 30 – Lecture 90)		
91-100	Non-verbal Polynomial Logs	RB1, RB2
101-105	VERBAL ABILITY Sentence Improvement Reading Comprehension Cloze Test Sentence Re- Arrangements	RB1, RB2
106-109	WORD POWER Fill in the Blanks Theme Detection Analogy VOCAB Synonyms Words often confused & misused	RB2
110-120	GRAMMAR Noun Pronoun Adjectives Tenses Verb Subject + Verb Agreement Adverb Preposition Article Conjunction	RB2
ETE (Lecture 1 – Lecture 120)		

6. Delivery/Instructional Resources

Lect. No.	Topics	PPT (Link of ppts on the central server)	Industry Expert Session (If yes: link of ppts on the central server)	Web References	Audio-Video
1-8	Number System H.C.F & L.C.M Average Distance and Direction Blood Relation	https://drive.google.com/drive/folders/10ASRmOIaU7		Unit 3 aptitude (slideshare.net) byjus.com/maths/hcf-and-lcm/	Vedic Maths L-1 Tricks for Fast Calculation Part1 Calculate 10x Faster #vedicmaths #besttricks - YouTube

					HCF and LCM by Sahil Sir Best LCM and HCF Aptitude Tricks - YouTube
9-20	Ratio Problem on Ages Partnership Allegation Analogy Venn diagram Syllogism Classification	https://drive.google.com/drive/folders/10ASRmOlau7eTug3meyVDUDLzGWzekerl		https://www.yourarticlelibrary.com/investment/analysis/study-notes-on-ratio-analysis/82666#:~:text=%20Study%20Notes%20on%20Ratio%20Analysis%20%201,c an%20be%20met%20by%20the%20firm.%20More%20	Aptitude Made Easy - Ratio & Proportions -1, Basics and Methods, Shortcuts, Tricks - YouTube Venn Diagram Concept - Explanation in detail Aashish Arora Bank PO/Clerk - YouTube
21-29	Introduction to Percentage Simple Interest Mathematical Coding – Decoding Alphabet Test	https://drive.google.com/drive/folders/10ASRmOlau7eTug3meyVDUDLzGWzekerl		Percentage and Simple Interest - Embibe Exams	Simple Interest & Compound Interest Quant CAT 2021 Gourav Gupta BYJU'S Exam Prep - YouTube
30-45	Compound Interest Profit and Loss Discount Problem on Ages Series	https://drive.google.com/drive/folders/10ASRmOlau7eTug3meyVDUDLzGWzekerl		Profit and Loss (Basic Concepts, Formulas, Tricks and Examples) (byjus.com)	Profit and Loss Best Shortcut Tricks How to Solve Profit & Loss Questions - YouTube
45-60	Work and Time Work and Wages Pipes and Cistern Cube and Dice Missing number Ranking Clock Calendar	https://drive.google.com/drive/folders/10ASRmOlau7eTug3meyVDUDLzGWzekerl		Time and Work Maths Shortcut Tricks.	Time and Work - Shortcuts & Tricks for Placement Tests, Job Interviews & Exams - YouTube
61-70	Time speed and distance The Train Boat and stream Inequalities and MACHINE I/P and O/P	https://drive.google.com/drive/folders/10ASRmOlau7eTug3meyVDUDLzGWzekerl		Mensuration (slideshare.net)	11:00 AM - RRB NTPC 2019-20 Maths by Sahil Khandelwal Mensuration - YouTube



71-80	P and C Introduction Probability Puzzle	https://drive.google.com/folders/10ASRmOlAU7eTug3meyVDUDLzGWzekerl		Probability - Formula, Definition, Theorems, Types, Examples (cuemath.com)	Introduction to Probability, Basic Overview - Sample Space, & Tree Diagrams - YouTube
81 - 90	D.I Statement – Argument, Statement- course of Action Sitting Arrangement	https://drive.google.com/folders/10ASRmOlAU7eTug3meyVDUDLzGWzekerl		Seating Arrangement Reasoning - Learn the Key Concepts Here! (testbook.com)	Seating Arrangement - Tricks & Shortcuts for Placement tests, Job Interviews & Exams - YouTube
91 - 100	Non-verbal Polynomial Logs	https://drive.google.com/folders/10ASRmOlAU7eTug3meyVDUDLzGWzekerl		Non Verbal Reasoning - Learn keyconcepts with solved examples (testbook.com)	Complete Non-Verbal Reasoning by Deepak Sir YouTube
101 - 105	VERBAL ABILITY Sentence Improvement Reading Comprehension Cloze Test Sentence Re-Arrangements	https://drive.google.com/folders/10ASRmOlAU7eTug3meyVDUDLzGWzekerl		Verbal Ability - Active & Passive Voice (tutorialspoint.com)	Verbal Reasoning [Complete] 3-Hour Marathon Session SSC Exams 2020/2021/2022 - YouTube
106-109	WORD POWER Fill in the Blanks Theme Detection Analogy VOCAB Synonyms Words often confused & misused	https://drive.google.com/folders/10ASRmOlAU7eTug3meyVDUDLzGWzekerl		Word Power (english-for-students.com)	(Session-1) Summary of Word Power Made Easy Norman Lewis SSC CGL CHSL MTS NDA CDS IBPS - YouTube
110-120	GRAMMAR Noun Pronoun Adjectives Tenses Verb	https://drive.google.com/folders/10ASRmOlAU7eTug3meyVDUDLzGWzekerl		English grammar - Wikipedia	Complete English Grammar - Full Course in 4 hours - 2022 - YouTube

Subject + Verb Agreement	RmOlaU7			
Adverb	eTug3me			
Preposition	yVDUDLz			
Article	GWzekerl			
Conjunction				

7. Action plan for different types of learners

Slow Learners	Average Learners	Fast Learners
<ul style="list-style-type: none"> Remedial Classes on Saturdays. Encouragement for improvement using PeerTutoring. Use of Audio and VisualMaterials. Use of Real-Life Examples. 	<ul style="list-style-type: none"> Formative Exercises used to highlight concepts and notions. E-notes and E-exercises to read ahead of the pedagogic material. 	<ul style="list-style-type: none"> Design solutions for complex problems. Presentation on topics beyond those covered in CHO. Engaging students to hold hands of slow learners by creating a Peer Tutoring Group.

8. Evaluation Scheme & Components:

Evaluation Component	Type of Component	No. of Assessments	Weightage of Component	Mode of Assessment
Component 1	Formative Assessments (FAs)	04*	20%	Offline
Component 2	Sessional Tests (STs)	02**	30%	Offline
Component 3	End Term Examinations	01	50%	Offline
Total		100%		

*Out of 04 FAs, the ERP system automatically picks the average of best 03 FAs marks for evaluation of the FAs as final marks.

**Out of 02 STs, the ERP system automatically picks the best 01 ST marks for evaluation of the STs as final marks.

Evaluation Components

Type of Assessment	Timeline of Conduct	Total Marks	Question Paper Format			
			1 Mark MCQ	2 Mark MCQ	5 Mark Question	10 Mark Question
Formative Assessment (FA) 01	Week 4	20	10	5	0	0
Formative Assessment (FA) 02	Week 7	20	10	5	0	0
Formative Assessment (FA) 03	Week 10	20	10	5	0	0
Formative Assessment (FA) 04	Week 20	20	10	5	0	0
Sessional Test (ST) 01	Week 6	60	20	20	0	0
Sessional Test (ST) 02	Week 16	60	20	20	0	0
End Term Examination	As per academic calendar	100	40	30	0	0

9. Details of Evaluation Components:

Evaluation Component	Description	Syllabus Covered (%)	Timeline of Examination	Weightage (%)
Component 01	FA 01	Up to 20%	Week 5	20%
	FA 02	20% - 40%	Week 10	
	FA 03	40% - 60%	Week 15	
	FA 04	60% - 100%	Week 25	
Component 02	ST 01	Up to 30%	Week 7	30%
	ST 02	31% - 75%	Week 18	
Component 03	End Term Examination*	100%	Week 27	50%
Total				100%

*As per Academic Guidelines minimum of 75% attendance is required to become eligible for appearing in the End Semester Examination

Syllabus of the Course:

Lecture Number	Topics	Weightage
1-8	Number System H.C.F & L.C.M Average Distance and Direction Blood Relation	20%
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21-29	Introduction to Percentage Simple Interest Mathematical Coding – Decoding Alphabet Test	30%
30-45	Compound Interest Profit and Loss Discount Problem on Ages Series	

46-60	Work and Time Work and Wages Pipes and Cistern Cube and Dice Missing number Ranking Clock Calendar	
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This Document is approved by:

Designation	Name	Signature
Course Coordinator	Dr. Suhaib Ahmed Batt	
Head Academic Delivery	Dr. Susheela Hooda	
Dean 3 rd Year	Dr. Rupali Gill	
Date (DD/MM/YYYY)	27/06/2023	