Lovely Professional University, Punjab

Course Code	Course Title	Lectures	Tutorials	Practicals	Credits	
PEA305	ANALYTICAL SKILLS-I	2	1	0	3	
Course Weightage	ATT: 15 CA: 30 MTT: 15 ETT: 40					

Course Focus	EMPLOYABILITY
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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 :: select an appropriate approach to solve problems related to percentage, profit and loss.

CO3 :: observe the data given and interpret given number and alphanumeric series

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

CO5 :: use the concepts of permutation, combination and probability to handle various problems.

CO6 :: analyze the reasoning aptitude problems such as blood relation and direction sense to solve related problems.

	TextBooks (T)		
Sr No	**Title**	**Author**	**Publisher Name**
T-1	QUANTITATIVE APTITUDE FOR COMPETITIVE EXAMINATIONS	DR.R.S. AGGARWAL	S Chand Publishing
T-2	A MODERN APPROACH TO VERBAL AND NON-VERBAL REASONING	DR. R.S. AGGARWAL	S Chand Publishing

	Reference Books (R)		
Sr No	**Title**	**Author**	**Publisher Name**
R-1	MAGICAL BOOK ON QUICKER MATHS	M.TYRA	BANKING SERVICE CHRONICLE
R-2	MAGICAL BOOK SERIES ANALYTICAL REASONING	M.K. PANDEY	BANKING SERVICE CHRONICLE

LTP week distribution: (LTP Weeks)	
Weeks before MTE	7

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Weeks After MTE	7
Spill Over (Lecture)	4

Detailed Plan For Lectures

Week Number	Lecture Number	Broad Topic(Sub Topic)	Chapters/Sections of Text/reference books	Other Readings, Relevant Websites, Audio Visual Aids, software and Virtual Labs	Lecture Description	Learning Outcomes	Pedagogical Tool Demonstration/ Case Study / Images / animation / ppt etc. Planned	Live Examples
Week 1	Lecture 1	Number system(HCF & LCM)	T-1 R-1		Zero Lecture	Introduction of the subject and information about the academic task	Lecture cum discussion method	
		Number system(divisibility rules)	T-1 R-1		The students will solve the questions of Number system	Able to solve the Number System related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Discussion and Power point presentation	
		Number system (classification of numbers)	T-1 R-1		Discussion regarding the subject and informing regarding the academic tasks. The students will solve the questions of Number system	Able to solve the Number System related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Discussion and Power point presentation	
		Number system(factors)	T-1 R-1		Discussion regarding the subject and informing regarding the academic tasks. The students will solve the questions of Number system	Able to solve the Number System related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Discussion and Power point presentation	

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Week 1	Lecture 2	Number system(factorials)	T-1 R-1		The students will solve the questions of Number system	Able to solve the Number System related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	
		Number system(unit digit calculation)	T-1 R-1		The students will solve the questions of Number system	Able to solve the Number System related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	
		Number system(remainder properties)	T-1 R-1		The students will solve the questions of Number system	Able to solve the Number System related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	
Week 2	Lecture 3	Average(basic average calculations)	T-1 R-1		The students will solve the questions of Average	Able to solve the Average related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	
		Average(average increase and decrease)	T-1 R-1		The students will solve the questions of Average	Able to solve the Average related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	

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Week 2	Lecture 3	Average(weighted average)	T-1 R-1		The students will solve the questions of Average	Able to solve the Average related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	
	Lecture 4	Simplification and approximation(BODMAS rule)	T-1 R-1		The students will solve the questions of Simplification and Approximation	Able to solve the BODMAS,Simplification and Approximation, related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	
		Simplification and approximation(calculation and approximation based on percentage)	T-1 R-1		The students will solve the questions of Simplification and Approximation	Able to solve the BODMAS,Simplification and Approximation, related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	
		Simplification and approximation(problem based on digit sum)	T-1 R-1		The students will solve the questions of Simplification and Approximation	Able to solve the BODMAS,Simplification and Approximation, related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	

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Week 3	Lecture 5	Percentage(basic percentage calculations)	T-1 R-1		The students will solve the questions of Percentage	Able to solve the Percentage related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	
		Percentage(percentage to fraction)	T-1 R-1		The students will solve the questions of Percentage	Able to solve the Percentage related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	
	Lecture 6	Percentage(percentage comparison)	T-1 R-1		The students will solve the questions of Percentage	Able to solve the Percentage related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	
		Percentage(percentage increase and decrease)	T-1 R-1		The students will solve the questions of Percentage	Able to solve the Percentage related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	
		Percentage(population change in percentage)	T-1 R-1		The students will solve the questions of Percentage	Able to solve the Percentage related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	

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Week 4	Lecture 7	Profit loss discount(basic concepts of cost price selling price and marked price)	T-1 R-1		The students will solve the questions of Profit & Loss and discount	Able to solve the Profit & Loss and discount related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	
		Profit loss discount (calculations of profit and loss percentage)	T-1 R-1		The students will solve the questions of Profit & Loss and discount	Able to solve the Profit & Loss and discount related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	
	Lecture 8	Profit loss discount(types of discount and discount percentages)	T-1 R-1		The students will solve the questions of Profit & Loss and discount	Able to solve the Profit & Loss and discount related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	
		Profit loss discount (comparison of profit or loss with discount percentage)	T-1 R-1		The students will solve the questions of Profit & Loss and discount	Able to solve the Profit & Loss and discount related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	

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Week 5	Lecture 9	Simple and compound interest(basic concepts of interest calculations)	T-1 R-1		The students will solve the questions of Simple and Compound Interest interest	Able to solve the Simple and Compound Interest related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Work book, Relevant Websites	
		Simple and compound interest(comparison of simple and compound interest)	T-1 R-1		The students will solve the questions of Simple and Compound Interest interest	Able to solve the Simple and Compound Interest related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Work book, Relevant Websites	
	Lecture 10				Online Assignment 1			
Week 6	Lecture 11	Logical reasoning(number series with introduction of AP and GP)	T-2 R-2		The students will solve logical reasoning problems based on series completion.	Able to solve the series completion related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	
		Logical reasoning(alphabet series)	T-2 R-2		The students will solve logical reasoning problems based on series completion.	Able to solve the series completion related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	
	Lecture 12	Logical reasoning(alphabet test)	T-2 R-2		The student will solve the problems based on alphabet test	Able to solve the alphabet test related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	

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Week 6	Lecture 12	Logical reasoning(coding and decoding)	T-2 R-2		The student will solve the problems based on coding and decoding method	Able to solve the coding and decoding related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	
Week 7	Lecture 13	Logical reasoning(language coding)	T-2 R-2		Students will solve the language coding problems	Able to solve the language coding related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	
		SPILL OVER						
Week 7	Lecture 14				Spill Over			
		MID-TERM						
Week 8	Lecture 15	Ratio and proportions(basic concepts of ratio and proportions and ages)	T-1 R-1		Students will solve the problems on ratio and proportion	Able to solve the ratio and proportion related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	
	Lecture 16	Ratio and proportions (problems based on ratio and proportions and ages)	T-1 R-1		Students solve the problems on Ratio and Proportion and ages	Able to solve the Ratio and Ages related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	

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Week 9	Lecture 17	Ratio and proportions (problems based on partnerships and profit sharing)	T-1 R-1		Students solve problems based on partnerships and sharing	Able to solve the partnership related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power point Presentation, White Board Teaching, Workbook, Relevant Websites	
	Lecture 18	Alligation and mixtures (conceptual knowledge of alligation and mixtures)	T-1 R-1		Students will solve the problems based on mixtures and alligation	Able to solve the alligation and mixtures related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Able to solve the alligation and mixtures related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	
		Alligation and mixtures (problems based on alligation and mixtures)	T-1 R-1		Students will solve the problems based on mixtures and alligation	Able to solve the alligation and mixtures related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Able to solve the alligation and mixtures related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	
Week 10	Lecture 19				Online Assignment 2			
	Lecture 20	Permutation(basic principle of counting)	T-1 R-1		Students will solve the numerical and alpha permutation problems	Able to solve the numerical and alpha permutation related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power point Presentation, White Board Teaching, Workbook, Relevant Websites	

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Week 10	Lecture 20	Permutation(numerical permutation(formation of numbers and sum of numbers))	T-1 R-1		Students will solve the numerical and alpha permutation problems	Able to solve the numerical and alpha permutation related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power point Presentation, White Board Teaching, Workbook, Relevant Websites	
		Permutation(alpha permutation(rearrangement of words and rank of a word))	T-1 R-1		Students will solve the numerical and alpha permutation problems	Able to solve the numerical and alpha permutation related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power point Presentation, White Board Teaching, Workbook, Relevant Websites	
Week 11	Lecture 21	Permutation(linear and circular permutation)	T-1 R-1		Students will solve the problems on linear and Circular permutation	Able to solve the linear and circular permutation related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power point Presentation, White Board Teaching, Workbook, Relevant Websites	
		Permutation(logical permutation)	T-1 R-1		Students will solve the problems on logical permutation	Able to solve the logical permutation related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power point Presentation, White Board Teaching, Workbook, Relevant Websites	
	Lecture 22	Combination(basic formulas of combination)	T-1 R-1		Students solve the problems based on combination	Able to solve the combination related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	

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Week 11	Lecture 22	Combination(formation of committee)	T-1 R-1		Students solve the problems based on combination	Able to solve the combination related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	
		Combination(combination of identical objects)	T-1 R-1		Students solve the problems based on combination	Able to solve the combination related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	
Week 12	Lecture 23	Probability(concept of probability)	T-1 R-1		Students solve the problems based on probability	Able to solve the Probability related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	
		Probability(classification of events)	T-1 R-1		Students solve the problems based on probability	Able to solve the Probability related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	
		Probability(problems based on coins dices and cards)	T-1 R-1		Students solve the problems based on probability	Able to solve the Probability related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	
	Lecture 24	Probability(conditional probability)	T-1 R-1		Students will solve problems based on conditional probability	Able to solve the Conditional probability related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	

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Week 13	Lecture 25	Analytical reasoning(blood relations)	T-2 R-2		Students will solve problem based on blood relations	Able to solve the blood relation related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	
	Lecture 26	Analytical reasoning (direction sense test)	T-2 R-2		Students will solve problems based on direction	Able to solve the Direction related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	
Week 14	Lecture 27				Online Assignment 3			
		SPILL OVER						
Week 14	Lecture 28				Spill Over			
Week 15	Lecture 29				Spill Over			
	Lecture 30				Spill Over			

Scheme for CA:

CA Category of this Course Code is:A0203 (2 best out of 3)

Component	Weightage (%)	Mapped CO(s)
Test 1	50	
Test 2	50	
Test 3	50	

Details of Academic Task(s)

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Academic Task	Objective	Detail of Academic Task	Nature of Academic Task (group/individuals)	Academic Task Mode	Marks	Allottment / submission Week
Test 1	To check whether students are able to solve the questions in given time	30 MCQ will be asked covering topics from Lecture No. 1 to 9, Duration of the first CA is 40 minutes and 25 % negative marking will be imposed for every incorrect answer	Individual	Online	30	4 / 5
Test 2	To check whether the students are able to solve the question in given time	30 MCQs will be asked covering topics from Lecture No. 11 to 18, Duration of the second CA is 40 minutes and 25 % negative marking will be imposed for every incorrect answer	Individual	Online	30	9 / 10
Test 3	To check whether the students are able to solve the question in given time	30 MCQ will be asked covering topics from Lecture No. 20 to26, Duration of the third CA is 40 minutes and 25 % negative marking will be imposed for every incorrect answer	Individual	Online	30	13 / 14

Plan for Tutorial: (Please do not use these time slots for syllabus coverage)

Tutorial No.	Lecture Topic	Type of pedagogical tool(s) planned (case analysis,problem solving test,role play,business game etc)
Tutorial1	Number System	Problem Solving
Tutorial2	Average	Problem Solving
Tutorial3	Simplification and Approximation	Problem Solving
Tutorial4	Percentage	Problem Solving
Tutorial5	Profit and Loss	Problem Solving
Tutorial6	SI and CI	Problem Solving
Tutorial7	Logical Reasoning	Problem Solving
After Mid-Term		
Tutorial8	Ratio and Proportion	Problem Solving
Tutorial9	Ages and Partnership	Problem Solving
Tutorial10	Alligation and Mixture	Problem Solving
Tutorial11	Permutation and Combination	Problem Solving
Tutorial12	Probability	Problem Solving
Tutorial13	Blood Relation	Problem Solving

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Tutorial14	Direction Sense	Problem Solving

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