Lovely Professional University, Punjab

Course Code	Course Title	Course Planner	Lectures	Tutorials	Practicals	Credits
PEA305	ANALYTICAL SKILLS-I	25853::Ashish	2	1	0	3
Course Weightage	ATT: 15 CA: 30 MTT: 15 ETT: 40	**Exam Category: 11: Mid Term Exam: All MCQ – End Term Exam: All MCQ**				

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 real life problems related to percentage, profit and loss.

CO3 :: apply the concepts learnt to solve the questions of ratio and proportion

CO4 :: use the concepts of permutation, combination and probability to handle different situation.

CO5 :: solve the reasoning aptitude problems such as blood relation, direction sense.

CO6 :: observe the data given and interpret it on the given number and alphanumeric series.

	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

Other Reading (OR)	
Sr No	**Journals articles as Compulsary reading (specific articles, complete reference)**
OR-1	Pratiyogita Darpan - Magazine to learn general knowledge and practicing various competitive exam papers ,
OR-2	Civil Services Times - Magazine for practicing competitive exam papers ,

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OR-3	Competition Success Review - Magazine for practicing competitive exam papers ,

Relevant Websites (RW)

Sr No	(Web address) (only if relevant to the course)	Salient Features
RW-1	https://www.hitbullseye.com/Reasoning	Suggested Website to view placement papers of the reputed Companies
RW-2	https://www.affairscloud.com/reasoning-questions/	Good site for reasoning questions of higher level.
RW-3	http://www.lofoya.com/Aptitude-Questions-and-Answers	The website to practice questions related to topics on Quantitative Aptitude
RW-4	https://m4maths.com/frequently-asked-placement-questions.php	Suggested Website to view placement papers of the reputed Companies
RW-5	https://www.careerbless.com/aptitude/qa/home.php	The best website for practicing aptitude questions online

LTP week distribution: (LTP Weeks)	
Weeks before MTE	7
Weeks After MTE	7
Spill Over (Lecture)	

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	OR-1 RW-3	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	

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Week 1	Lecture 1	Number system(divisibility rules)	T-1 R-1	OR-2 RW-4	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 (classification of numbers)	T-1 R-1	OR-3 RW-5	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(factors)	T-1 R-1	OR-1 RW-3	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	
	Lecture 2	Number system(factorials)	T-1 R-1	OR-2 RW-4	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	OR-3 RW-5	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	

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Week 1	Lecture 2	Number system(remainder properties)	T-1 R-1	OR-1 RW-3	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	OR-2 RW-4	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	OR-1 RW-3	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(weighted average)	T-1 R-1	OR-2 RW-4	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	A.P and G.P(basic formulas on arithmetic and geometric progressions)	T-1 R-1	OR-1 RW-3	The students will solve the questions of A.P and G.P	Able to solve the A.P and G.P 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	Lecture	Topic			Outcome	Objective	Pedagogy	
Week 2	Lecture 4	A.P and G.P(calculation of general terms)	T-1 R-1	OR-2 RW-4	The students will solve the questions of A.P and G.P	Able to solve the A.P and G.P 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	
		A.P and G.P(sum of n terms calculation)	T-1 R-1	OR-1 RW-3	The students will solve the questions of A.P and G.P	Able to solve the A.P and G.P 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 3	Lecture 5	Percentage(basic percentage calculations)	T-1 R-1	OR-2 OR-3	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	OR-1 OR-2	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 comparison)	T-1 R-1	OR-1 OR-2	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	Lecture	Topic				Outcome	Medium
Week 3	Lecture 5	Percentage(percentage increase and decrease)	T-1 R-1	OR-1 OR-2	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	OR-1 OR-2	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	Profit loss discount(basic concepts of cost price selling price and marked price)	T-1 R-1	OR-2 RW-4	The students will solve the questions of Profit & Loss	Able to solve the Profit & Loss 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	OR-2 RW-4	The students will solve the questions of Profit & Loss	Able to solve the Profit & Loss 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 4	Lecture 7	Profit loss discount(types of discount and discount percentages)	T-1 R-1	OR-1 OR-2 OR-3	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 4	Lecture 7	Profit loss discount (comparison of profit or loss with discount percentage)	T-1 R-1	OR-1 OR-2 OR-3	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				Online Assignment 1			
Week 5	Lecture 9	Simple and compound interest(basic concepts of interest calculations)	T-1 R-1	OR-1 RW-5	The students will solve the questions of Simple Interest and compound 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, Workboook, Relevant Websites	
		Simple and compound interest(comparison of simple and compound interest)	T-1 R-1	OR-1 RW-5	The students will solve the questions of Simple Interest and compound 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, Workboook, Relevant Websites	
	Lecture 10	Simple and compound interest(EMI calculations)	T-1 T-2	OR-2 RW-4	The students will solve the questions of Simple Interest and compound 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, Workbook, Relevant Websites	

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Week 6	Lecture 11	Logical reasoning(number series)	T-2 R-2	RW-1 RW-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(alpha series)	T-2 R-2	RW-1 RW-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	OR-1 OR-2 OR-3 RW-1 RW-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	
		Logical reasoning(coding and decoding)	T-2 R-2	OR-1 OR-2 RW-1 RW-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	RW-1 RW-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	

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<table>
<tr><td colspan="9" align="center">**SPILL OVER**</td></tr>
<tr><td>Week 7</td><td>Lecture 14</td><td></td><td></td><td></td><td>Spill Over</td><td></td><td></td><td></td></tr>
<tr><td colspan="9" align="center">**MID-TERM**</td></tr>
<tr>
<td>Week 8</td>
<td>Lecture 15</td>
<td>Ratio and proportions(basic concepts of ratio and proportions and ages)</td>
<td>T-1
R-1</td>
<td>OR-2
OR-3
RW-3
RW-5</td>
<td>Students solve the problems on ratio and proportion</td>
<td>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</td>
<td>Power Point Presentation, White Board Teaching, Workbook, Relevant Websites</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lecture 16</td>
<td>Ratio and proportions (problems based on ratio and proportions and ages)</td>
<td>T-1
R-1</td>
<td>OR-2
RW-3</td>
<td>Students solve the problems on ratio and proportion</td>
<td>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</td>
<td>Power point Presentation, White Board Teaching, Workbook, Relevant Websites</td>
<td></td>
</tr>
<tr>
<td>Week 9</td>
<td>Lecture 17</td>
<td>Ratio and proportions (problems based on partnerships and profit sharing)</td>
<td>T-1
R-1</td>
<td>OR-2
RW-5</td>
<td>Students solve problems based on partnerships and sharing</td>
<td>Able to solve the partnership related problems quickly so that students can solve the Placement Test/Competitive Test paper in given time period</td>
<td>Power point Presentation, White Board Teaching, Workbook, Relevant Websites</td>
<td></td>
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<tr>
<td></td>
<td>Lecture 18</td>
<td>Alligation and mixtures (conceptual knowledge of alligation and mixtures)</td>
<td>T-1
R-1</td>
<td>OR-3
RW-4
RW-5</td>
<td>Students will solve the problems based on mixtures and alligation</td>
<td>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</td>
<td>Power Point Presentation, White Board Teaching, Workbook, Relevant Websites</td>
<td></td>
</tr>
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Week 9	Lecture 18	Alligation and mixtures (problems based on alligation and mixtures)	T-1 R-1	OR-3 RW-4 RW-5	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	Power Point Presentation, White Board Teaching, Workbook, Relevant Websites	
Week 10	Lecture 19				Online Assignment 2			
	Lecture 20	Permutation(basic principle of counting)	T-1 R-1	OR-3 RW-5	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(numerical permutation(formation of numbers and sum of numbers))	T-1 R-1	OR-3 RW-5	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	OR-3 RW-5	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	OR-3 RW-3	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	
		Permutation(logical permutation)	T-1 R-1	OR-3 RW-3	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	OR-2 RW-4	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(formation of committee)	T-1 R-1	OR-2 RW-4	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	OR-2 RW-4	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 12	Lecture 23	Probability(concept of probability)	T-1 R-1	OR-2 RW-3	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	OR-2 RW-3	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	OR-2 RW-4 RW-5	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	OR-2 RW-4 RW-5	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	
Week 13	Lecture 25	Analytical reasoning(Blood Relation)	T-2 R-2	OR-3 RW-1 RW-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)	T-2 R-2	OR-3 RW-1 RW-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	

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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)
Online Assignment 1	50	CO1, CO2
Online Assignment 2	50	CO3, CO6
Online Assignment 3	50	CO4, CO5

Details of Academic Task(s)

Academic Task	Objective	Detail of Academic Task	Nature of Academic Task (group/individuals)	Academic Task Mode	Marks	Allottment / submission Week
Online Assignment 1	To check the ability of student to solve the question and clear the industry benchmark	Test for unit 1 and 2	Individual	Online	30	4 / 4
Online Assignment 2	To check the ability of student to solve the question and clear the industry benchmark	Test for unit 3 and 4	Individual	Online	30	9 / 9
Online Assignment 3	To check the ability of student to solve the question and clear the industry benchmark	Test for unit 5 and 6	Individual	Online	30	14 / 14

MOOCs/ Certification etc. not-mapped with the Academic Task(s) (Available for students for better learning/ will get students ready for)

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Name Of Certification/Online Course/Test/Competition mapped	Type	Offered By Organisation
AMCAT	Test/Examination	ASPIRING MINDS

List of suggested topics for term paper[at least 15] (Student to spend about 15 hrs on any one specified term paper)

Sr. No.	Topic
1	NA

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	A.P and G.P	Problem Solving
Tutorial4	Percentage	Problem Solving
Tutorial5	Profit loss discount	Problem Solving
Tutorial6	Simple and compound interest	Problem Solving
Tutorial7	Logical reasoning	Problem Solving
After Mid-Term		
Tutorial8	Permutation	Problem Solving
Tutorial9	Combination	Problem Solving
Tutorial10	Probability	Problem Solving
Tutorial11	Ratio and proportions	Problem Solving
Tutorial12	Alligation and mixtures	Problem Solving
Tutorial13	Logarithms	Problem Solving
Tutorial14	Analytical reasoning	Problem Solving

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