

Lovely Professional University, Punjab

Course Code	Course Title	Lectures	Tutorials	Practicals	Credits	
PEA307	ADVANCED ANALYTICAL SKILLS-I	2	1	0	3	
Course Weightage	ATT: 15 CA: 30 MTT: 15 ETT: 40					
Course Focus	EMPLOYABILITY,ENTREPRENEURSHIP					
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Course Outcomes :Through this course students should be able to

CO1 :: demonstrate procedural fluency with numerations and mathematical operations to solve the stated problems

CO2 :: learn the concepts to solve various income and interest based questions

CO3 :: read the data given and interpret it for solving flow chart

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

CO5 :: employ the concepts of counting methods to solve probability based questions

CO6 :: identify an appropriate approach to solve logical reasoning problems related to blood relations and directions

	TextBooks (T)		
Sr No	Title	Author	Publisher Name
T-1	QUANTITATIVE APTITUDE FOR COMPETITIVE EXAMINATIONS	DR.R.S. AGGARWAL	S. CHAND & COMPANY
T-2	MAGICAL BOOK SERIES ANALYTICAL REASONING	M.K. PANDEY	BANKING SERVICE CHRONICLE

	Reference Books (R)		
Sr No	Title	Author	Publisher Name
R-1	A MODERN APPROACH TO VERBAL AND NON-VERBAL REASONING	DR. R.S. AGGARWAL	S. CHAND & COMPANY
R-2	MAGICAL BOOK ON QUICKER MATHS	M.TYRA	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	Advanced numeration (factors)	T-1 T-2 R-1 R-2		Zero lecture	It will help the student to understand the importance of the subject and the scoring techniques for this subject	Power point presentation, White board	
	Lecture 2	Advanced numeration (factorials)	T-1 R-2		The students will solve the questions of numeration	Able to solve the numeration 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	
		Advanced numeration(unit digit calculation)	T-1 R-2		The students will solve the questions of numeration	Able to solve the numeration 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	
		Advanced numeration (advanced number based questions)	T-1 R-2		The students will solve the questions of numeration	Able to solve the numeration 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	Advanced numeration (remainder properties)	T-1 R-2		The students will solve the questions of numeration	Able to solve the numeration 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	
		Advanced numeration(HCF & LCM)	T-1 R-2		The students will solve the questions of numeration	Able to solve the numeration 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	Mean(inclusion and exclusion-related questions)	T-1 R-2		The students will solve the questions of mean	Able to solve the mean based 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	
		Mean(missing number questions)	T-1 R-2		The students will solve the questions of mean	Able to solve the mean based 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	
		Mean(questions based on cricket)	T-1 R-2		The students will solve the questions of mean	Able to solve the mean based 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	Linear quadratic equations (statement based questions)	T-1 R-2		The students will solve the questions of Linear quadratic equations	Able to solve the Linear quadratic equations 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	
		Linear quadratic equations (roots of the quadratic equation)	T-1 R-2		The students will solve the questions of Linear quadratic equations	Able to solve the Linear quadratic equations 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	Advanced percentage (percentage to fraction)	T-1 R-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	
		Advanced percentage (percentage increase and decrease)	T-1 R-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	
Week 4	Lecture 7	Advanced percentage (population change in percentage)	T-1 R-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	

Week 4	Lecture 7	Advanced percentage (questions based on examination and election)	T-1 R-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 8	Income based questions (concepts of cost price selling price and marked price)	T-1 R-2		The students will solve income based questions	Able to solve the income 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	
		Income based questions (questions based on selling an article and interchanging its values)	T-1 R-2		The students will solve income based questions	Able to solve the income 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 5	Lecture 9	Income based questions (successive discount)	T-1 R-2		The students will solve income based questions	Able to solve the income 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	
		Income based questions (dishonest seller-related questions)	T-1 R-2		The students will solve income based questions	Able to solve the income 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 5	Lecture 10	Interest based problems (concepts of interest calculations)	T-1 R-2		The students will solve interest based questions.	Able to solve the 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	
		Interest based problems (questions based on the difference between CI and SI)	T-1 R-2		The students will solve interest based questions.	Able to solve the 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	
		Interest based problems(EMI calculations)	T-1 R-2		The students will solve interest based questions.	Able to solve the 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	
Week 6	Lecture 11				Online Assignment 1			
	Lecture 12	Flow chart(concepts of flow chart)	T-2 R-1		The students will solve the questions of flow chart.	Able to solve the flow chart 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	Alpha numeric coding (coding and decoding)	T-2 R-1		The students will solve logical reasoning problems based on numeric coding	Able to solve the numeric 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	

Week 7	Lecture 13	Alpha numeric coding (number)	T-2 R-1		The students will solve logical reasoning problems based on numeric coding	Able to solve the numeric 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	
		Alpha numeric coding (alphabet series questions)	T-2 R-1		The students will solve logical reasoning problems based on numeric coding	Able to solve the numeric 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	
		Alpha numeric coding (language coding questions)	T-2 R-1		The students will solve logical reasoning problems based on numeric coding	Able to solve the numeric 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	Advanced ratio and proportion(questions based on addition)	T-1 R-2		Students 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	

Week 8	Lecture 15	Advanced ratio and proportion(difference and product)	T-1 R-2		Students 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	
		Advanced ratio and proportion(questions based on coins and rupees)	T-1 R-2		Students 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	Advanced ratio and proportion(questions based on income and expenditure)	T-1 R-2		Students 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	
		Advanced ratio and proportion(problems based on ratio and proportions and ages)	T-1 R-2		Students 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	
		Advanced ratio and proportion(problems based on partnerships and profit-sharing)	T-1 R-2		Students 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	

Week 9	Lecture 17	Components and blending (conceptual knowledge of alligation and mixtures)	T-1 R-2		Students will solve the problems based on components and blending	Able to solve the components and blending related problems quickly so that students can solve the Placement Test/Competitive Test paper in the given time	Power point Presentation, White Board Teaching, Workbook, Relevant Websites	
		Components and blending (problems based on alligation and mixtures)	T-1 R-2		Students will solve the problems based on components and blending	Able to solve the components and blending related problems quickly so that students can solve the Placement Test/Competitive Test paper in the given time	Power point Presentation, White Board Teaching, Workbook, Relevant Websites	
	Lecture 18				Online Assignment 2			
Week 10	Lecture 19	Counting methods(counting method)	T-1 R-2		Students will solve the problems on counting methods	Able to solve the problems related to counting so that students can solve the Placement Test/Competitive Test paper in given time period	Power point Presentation, White Board Teaching, Workbook, Relevant Websites	
		Counting methods (numerical permutation (formation of numbers and sum of numbers))	T-1 R-2		Students will solve the problems on counting methods	Able to solve the problems related to counting so that students can solve the Placement Test/Competitive Test paper in given time period	Power point Presentation, White Board Teaching, Workbook, Relevant Websites	
		Counting methods(alpha permutation(rearrangement of words and rank of a word))	T-1 R-2		Students will solve the problems on counting methods	Able to solve the problems related to counting 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 19	Counting methods(logical permutation)	T-1 R-2		Students will solve the problems on counting methods	Able to solve the problems related to counting so that students can solve the Placement Test/Competitive Test paper in given time period	Power point Presentation, White Board Teaching, Workbook, Relevant Websites	
		Counting methods(linear and circular permutation)	T-1 R-2		Students will solve the problems on counting methods	Able to solve the problems related to counting 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 20	Counting methods(formulas of combination)	T-1 R-2		Students will solve the problems on counting methods	Able to solve the problems related to counting so that students can solve the Placement Test/Competitive Test paper in given time period	Power point Presentation, White Board Teaching, Workbook, Relevant Websites	
		Counting methods (combination of identical objects)	T-1 R-2		Students will solve the problems on counting methods	Able to solve the problems related to counting so that students can solve the Placement Test/Competitive Test paper in given time period	Power point Presentation, White Board Teaching, Workbook, Relevant Websites	
		Counting methods (distribution based questions)	T-1 R-2		Students will solve the problems on counting methods	Able to solve the problems related to counting so that students can solve the Placement Test/Competitive Test paper in given time period	Power point Presentation, White Board Teaching, Workbook, Relevant Websites	
		Counting methods(formation of committee)	T-1 R-2		Students will solve the problems on counting methods	Able to solve the problems related to counting 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	Probability(concept of probability)	T-1 R-2		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-2		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(PnC based probability questions)	T-1 R-2		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 22	Probability(conditional probability)	T-1 R-2		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-2		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 12	Lecture 23	Non verbal reasoning(visual reasoning: mirror/water image)	T-2 R-1		Students will solve problems based on non verbal reasoning	Able to solve the non verbal reasoning 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	Non verbal reasoning(paper cutting and folding)	T-2 R-1		Students will solve problems based on non verbal reasoning	Able to solve the non verbal reasoning 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	
		Non verbal reasoning (deviation of figure)	T-2 R-1		Students will solve problems based on non verbal reasoning	Able to solve the non verbal reasoning 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	Non verbal reasoning (completion of the figure)	T-2 R-1		Students will solve problems based on non verbal reasoning	Able to solve the non verbal reasoning 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	
		Non verbal reasoning (embedded figure)	T-2 R-1		Students will solve problems based on non verbal reasoning	Able to solve the non verbal reasoning 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 (direction sense : questions based on determining directions & distance)	T-2 R-1		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 13	Lecture 26	Analytical reasoning(blood relation: question based on english alphabet problem)	T-2 R-1		Students will solve problem based on blood relations	Able to solve the blood relations 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	
		Analytical reasoning (question based on word problem)	T-2 R-1		Students will solve problem based on blood relations	Able to solve the blood relations 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	CO1, CO2
Test 2	50	CO3, CO4
Test 3	50	CO5, CO6

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 test the ability of the students to clear the cut off of the industry	30 MCQ type questions would be asked covering topics from Lecture No. 1 to 10, Duration of the first CA is 40 minutes and 25 % negative marking will be imposed for every incorrect answer	Individual	Online	30	5 / 6
Test 2	To test the ability of the students to clear the cut off of the industry	30 MCQ type questions would be asked covering topics from Lecture No. 12 to 17, Duration of the second CA is 40 minutes and 25 % negative marking will be imposed for every incorrect answer	Individual	Online	30	8 / 9
Test 3	To test the ability of the students to clear the cut off of the industry	30 MCQ type questions would be asked covering topics from Lecture No. 19 to 26, Duration of the third CA is 40 minutes and 25 % negative marking will be imposed for every incorrect answer	Individual	Online	30	13 / 14

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

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

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	Advanced numeration	Problem Solving
Tutorial2	Mean	Problem Solving
Tutorial3	Linear quadratic equations	Problem Solving
Tutorial4	Advanced percentage	Problem Solving
Tutorial5	Income based questions	Problem Solving
Tutorial6	Flow chart	Problem Solving
Tutorial7	Alpha numeric coding	Problem Solving
After Mid-Term		
Tutorial8	Advanced ratio and proportion	Problem Solving
Tutorial9	Components and blending	Problem Solving
Tutorial10	Counting methods	Problem Solving

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Tutorial11	Counting methods	Problem Solving
Tutorial12	Probability	Problem Solving
Tutorial13	Analytical reasoning	Problem Solving
Tutorial14	Non verbal reasoning	Problem Solving

