LOK JAGRUTI UNIVERSITY (LJU)

INSTITUTE OF ENGINEERING AND TECHNOLOGY

Department of Mechanical Engineering (710)

Bachelor of Engineering (B.E.) – Semester – V

Course Code:	**01717591**
Course Name:	**Engineering Aptitude**
Category of Course:	Humanities, Social Science and Management Course (HSMC)
Prerequisite Course:	Basic Mathematics

Teaching Scheme				
Lecture (L)	**Tutorial (T)**	**Practical (P)**	**Credit**	**Total Hours**
3	**0**	**0**	**3**	30

Syllabus

Unit No.	Topic	Prerequisite Topic	Successive Topic	Teaching Hours
01	**Logical Reasoning - Series and Analogy**			**4 (14%)**
	1.1 Series	---	---	
	1.2 Analogy	---	---	
	1.3 Classification	---	---	
	1.4 Coding and decoding	---	---	
	1.5 Arithmetical Reasoning	---	---	
	1.6 Mathematical Operation	---	---	
	1.7 Data Sufficiency	---	---	
02	**Logical Reasoning – Puzzle Solving**			**6 (19%)**
	2.1 Calendar and Clock	---	---	
	2.2 Blood Relations	---	---	
	2.3 Mirror Image, Water Image	---	---	
	2.4 Completion of Incomplete figure/ Pattern	---	---	
	2.5 Figure Matrix	---	---	
	2.6 Ranking Test / Seating Arrangement	---	---	
	2.7 Directions	---	---	
	2.8 Vienn Diagram	---	---	
	2.9 Cubes and Dices	---	---	
	2.10 Paper Folding and Paper Cutting	---	---	
03	**Numerical Ability - Number System**			**3 (11%)**
	3.1 Number System	Basic Mathematical Operations	---	
	3.2 LCM / HCF	Factors	---	
	3.3 Decimal Fraction	---	---	
	3.4. Simplification	---	---	
	3.5 Average	---	---	

	3.6 Odd Man Out and Series	---	---	
	3.7 Problems on Numbers	---	---	
04	**Numerical Ability - Exponents and Powers**			**2 (7%)**
	4.1 Surds & Indices	---	---	
	4.2 Square root / Cube root	---	---	
	4.3 Logarithms	---	---	
05	**Numerical Ability - Height, Area and Volume**			**2 (7%)**
	5.1 Heights and Distances	---	---	
	5.2 Area	Area formula of basic shapes	---	
	5.3 Volume and Surface Area	Volume formula of basic shapes	---	
06	**Numerical Ability - Basic Probability**			**3 (8%)**
	6.1 Permutations and Combinations	---	Probability	
	6.2 Probability	Permutations and Combinations	---	
07	**Quantitative Aptitude - Clerical Aptitude**			**4 (13%)**
	7.1 Percentage	Multiplication and Division	Profit and Loss	
	7.2 Profit and Loss	Percentage	---	
	7.3 Partnership	---	---	
	7.4 Simple Interest	Percentage	---	
	7.5 Compound Interest	Percentage	---	
	7.6 Bank Discount	---	---	
	7.7 True Discount	---	---	
08	**Quantitative Aptitude - Arithmetic Aptitude**			**1 (4%)**
	8.1 Ratio and Proportion	---	---	
	8.2 Allegation and Mixture	---	---	
09	**Quantitative Aptitude - Physical Aptitude**			**4 (13%)**
	9.1 Time, Speed and Distance	---	---	
	9.2 Boat and Stream	Time, Speed and Distance	---	
	9.3 Trains	Time, Speed and Distance	---	
	9.4 Time and Work	---	---	
	9.5 Chain Rule	Time and Work	---	
	9.6 Pipe and Cistern	Time and Work	---	
10	**Quantitative Aptitude – Problem Solving Methods**			**1 (4%)**
	10.1 Problems on Ages	---	---	
	10.2 Races and Games	Time, Speed and Distance	---	

Proposed Theory + Practical Evaluation Scheme by Academicians (% Weightage Category Wise and it's Marks Distribution)					
L:	**3**	**T:**	**0**	**P:**	**0**
Group (Theory or Practical)	**Group (Theory or Practical)**	**Total Subject Credit**	**Category**	**% Weightage**	**Marks Weightage**

	Credit				
Theory	**3**	**3**	MCQ (Numerical)	100%	100
Theory			Theory Descriptive	0%	0
Theory			Formulas and Derivation	0%	0
Theory			Numerical	0%	0
Expected Theory %	**0%**		**Calculated Theory %**	**0%**	**0**
Practical	**0**		Individual Project	0%	0
Practical			Group Project	0%	0
Practical			Internal Practical Evaluation (IPE)	0%	0
Practical			Viva	0%	0
Practical			Seminar	0%	0
Expected Practical %	**0%**		**Calculated Practical %**	**0%**	**0**
Overall %				**100%**	**100**

Course Outcome	
	Upon completion of the course students will be able to
1	evaluate individual's level of logical reasoning, which can help them learn more effectively.
2	analyze quantitative ability for clerical problems.
3	apply rules, concept of numerical ability in complex engineering needs.
4	understand the need of aptitude in real life problems.
Suggested Reference Books	
1	R.S. Aggarwal - **Quantitative Aptitude for Competitive Examinations**
2	R.S. Aggarwal - **A Modern Approach to Verbal & Non-Verbal Reasoning**

List of Open-Source Software/Learning website	
1	http://www.geeksforgeeks.org/aptitude-questions-and-answers
2	http://www.ambitionbox.com/topics/aptitude/questions-and-answers