PES UNIVERSITY, BENGALURU

(ESTABLISHED UNDER KARNATAKA ACT 16 OF 2013)

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

SESSION: **JAN – MAY, 2020**

THEORY OF COMPUTATION – UE18CS254 (3:0:0:0:3)

Textbook:

1. **An Introduction to Formal Languages and Automata**, Peter Linz, 5th Edition, Jones and Bartlett, New Delhi, India, 2011.
2. **Theory of Computation: A Problem–Solving Approach**, Kavi Mahesh, Wiley India, New Delhi, 2012

Hours	Unit	Topic	Chapter & Section	% Coverage	
				Unit	Total
9	2	Regular Expressions, Construction of Regular Expressions, Regular expression in Practice	T2- 4.1 – 4.4, 4.7, 4.9	19.23	40.38
10		Equivalence of RegEx & Finite Automata, Conversion of Regular expression to Automata, Conversion of Automata to Regular Expression, Equivalence of two regular expressions	T1-3.2, T2 - 4.5 – 4.6		
11					
12		Regular Grammars, Right linear and left linear grammar	T2 - 5.1 – 5.3		
13		Equivalence of Regular Grammar & Finite Automata and conversion	T2 - 5.4 – 5.7		
14					
15		Closure Properties of Regular Languages (Union, Concatenation, star closure, complement, reverse, intersection , difference)	T2 - 6.1 – 6.2		
16		Pumping Lemma and identifying Non–Regular Languages	T1- 4.3, T2 - 6.3 – 6.4		

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T1 - An Introduction to Formal Languages and Automata, Peter Linz, 5th Edition, Jones and Bartlett, New Delhi, India, 2011.

T2 - Theory of Computation: A Problem–Solving Approach, Kavi Mahesh, Wiley India, New Delhi, 2012.

References:

Introduction to Automata Theory, Languages, and Computation, John E. Hopcroft, Rajeev Motwani, Jeffrey D. Ullman, 3rd edition, Pearson Education, Delhi, India, 2009.

Theory of Computation, Michael Sipser, Cengage Learning, New Delhi, India, 2008.