CP311: CAPSTONE COURSE
CREDITS = 2 (L=0, T=2, P=0)

Course Objective:
To help students refresh fundamentals of core courses of computer engineering discipline

Teaching and Assessment Scheme:

Teaching Scheme			Credits	Marks Distribution				Total Marks
				Theory Marks		Practical Marks		
L	T	P	C	ESE	CE	ESE	CE	
0	2	0	2	0	0	30	20	50

Course Contents:

Unit No.	Topics	Teaching Hours
1	**Programming Languages:**	
	Review of important concepts of C/C++ and Java.	04
2	**Data Structures and Algorithms:**	
	Review of stack, queue, linked list, tree, various searching and sorting algorithms, divide and conquer, dynamic programming, greedy algorithms, complexity analysis.	06
3	**Operating Systems:**	
	Review of scheduling algorithms, memory management, file systems, and input/output management.	04
4	**Digital Logic & Design, Computer Organization &Architecture:**	
	Review of combinational and sequential circuit design, concepts of CPU design, cache memory, mapping techniques, pipelining, and superscalar architecture.	04
5	**Computer Networks :**	
	Review of layered architecture for computer networks, IP addressing, encoding techniques, sliding window protocols, routing.	04
6	**Database Management Systems:**	
	Review of Normalization, query processing.	04
7	**Theory of Computation and Compiler Design:**	

Review of finite state machines, push down automata, and Turing machines, various grammars and ambiguity in grammar, lexical analysis, parsing and various stages of compiler.	04
TOTAL	**30**

List of References:

All the references listed in the courses related to above topics

Course Outcomes (COs):

After successful completion of this course the students will be able to

1. Integrate knowledge of major areas of computer engineering discipline
2. Relate the topics of different courses of the computer engineering discipline
3. Apply concepts of different core courses in technical competitive examinations
4. Apply concepts of different core courses in campus placements
5. Apply concepts of different core courses in various applications
6. Enhance self-learning attitude in themselves