WORK PLAN (July-December 2015)

Course Name: B.Tech Computer Science
Semester: V
Paper Code: CS-502
Paper Name: : Theory of Computation
Faculty: Soniya Sharma

WEEK	DATES	TOPICS TO BE COVERED
1	3-8 Aug	Regular Expressions (Ref.: [1]: [chap. 4 p31-48])
2	10-15 Aug(14-15 aug Holiday)	Finite Automata and Regular languages (Ref.: [1]: [Ch. 5 p52-71],])
3	17-22 Aug	Finite Automata and Regular languages (Ref.: [1]: [Ch. 7 p135-141]) Quiz1
4	24-29 Aug	Deterministic and Nondeterministic Finite Automata (Ref:.[1]:[Ch. 9 p169-185]) Result of quiz1
5	31 Aug-5 Sep	Pumping Lemma (Ref.: [1]: [chap.. 10 (pumping lemma) p190-195]) Closure properties of Regular Languages ([3]: [§4.2 p122-135]) Quiz 2
6	7-12 Sep	Closure properties of Regular Languages ([3]: [§4.2 p122-135]) Context free grammars, Parse Trees (Ref.: [1]: [chap.. 12 p224-245]) Result of quiz2
7	14-19 Sep	Ambiguities in grammars and languages, (Ref.: [1]: [chap.. 12 p245-254])
8	21-26 Sep(25 sept Holiday)	Pushdown automata (Ref.:[1]:[Ch. 14 p289-300])
9	28 Sep-3 Oct(2 Oct Holiday)	Pushdown automata (Ref.:[1]:[Ch. 14 p301-311]) Mid-Sem test on 28.09.15
10	5-10 Oct	Chomsky's Normal Form, Pumping Lemma (Ref.: [1]:[chap.. 13(CNF only) p278-282][Ch. 16 p351-364])
11	12-17 Oct	Properties of Context free languages (Ref.: [3]:[§7.3 p264-273]) Result of mid-sem test
12	19-20 Oct (21-25 Mid-sem break)	Turing Machines: Turing machine as a model of Computation (Ref.: [2]:[§4.1 p179-190])
13	26-31 Oct	Turing Machines: Turing machine as a model of Computation (Ref.: [2]:[§4.2 p194-200]) Quiz 3
14	2-7 Nov	Universal Turing machine, Language Acceptability, Decidability (Ref.: [2]:[§5.2, §5.3 p247-256]) Result of quiz 3
15	9-13 Nov(11 Nov Diwali)	Halting Problem. (Ref.: [2]:[§5.4])

Internal Assesment Schedule:

1. Three quiz as per the schedule given in the workplan.

2. One mid-semester exam as per the schedule given in the workplan.

3. Presentation on topics related to Theory of Computation(Schedule will be finalized by August end)

Marks Distribution(for 25 Marks of internal assessment):

1. Mid-sem test: 10 Marks

2. Three Quiz + Presentation: 15 Marks a. Weightage of a quiz:

3 Marks b. Weightage of Presentation: 6marks

Readings/Reference Texts:

1.Daniel I.A.Cohen, Introduction to Computer Theory, Second edition, John Wiley,1997.

2.Harry R. Lewis, Christos H. Papadimitriou, Elements of the Theory of Computation, 2ndedition, Pearson Education, 1998.

3.John E. Hopcroft, Rajeev Motwani, Jeffery D. Ullman, Introduction to Automata Theory, Languages and Computation,3rd Edition Pearson Education, 2007.

Reference Books

4.P. Linz, An Introduction to Formal Languages and Automata, 5th Edition Jones Barlett, 2011.

5.John C. Martin, Introduction to Languages and the Theory of Computation, 4th edition, Tata McGraw Hill, 201