MARATHA VIDYA PRASARAK SAMAJ'S
KARMAVEER ADV. BABURAO GANPATRAO THAKARE
COLLEGE OF ENGINEERING
KBTCOE
Permanently Affiliated to Savitribai Phule Pune University Vide Letter No: CA/1542
& Approved by AICTE New Delhi Vide Letter No: 740-89-32 (E) ET/98
AISHE Code - C-41622
NAAC
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Expert Talk on Application of RE & CFG

Date : 25 / 09/ 2019

Department of Information technology organized Expert Talk on Application of RE & CFG on 25th September 2019. Session was conducted by Dr. Swati Bhavsar working as associate professor at MCCOERC. She discussed different real time applications of RE & CFG . Also explained student how compiler works and what different phases of compiler are. This session was organized by Ms. D. R. Gatne .

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Department Of Information Technology

Class: TE IT

Expert Talk on Applications of RE & CFG Date: 25/9/2019

Objectives:

To get knowledge about real time application of theory of computation

PO Mapped:

PO1 **Engineering Knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2 **Problem Analysis:** Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences

PO3 **Design/development of Solutions:** Design solutions for complex engineering problems and design system components or processes that meet t h e specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO12 **Life-long learning**: Recognize the need for, and have the preparation and ability to engage i independent and life-long learning in the broadest context of technological change.

Sr.No	Roll No.	Name Of Student	Sign
1	75	More Reshani Dadaji	
2	54	Madhuri S. Sanap	
3	51	Pranjal A. Pingle	
4	06	Divya J. Bhamre	
5	24	Dhanashri T. Tadhav	
6	43	Vishakha S. More	
7	03	Ronak Bawskar.	
8	67	Rohit Vishwakarma	
9	46	Shubham nikumbh.	
10	49.	Sushant Patil	
11	28	Siddhant Kadam.	
12	16	Shivam Dumbare	
13	02	Ganesh Bakolkar	
14	59	Salil. D. Shirdar	
15	62	Sarang Suryawanshi	
16	66	Sanket Vidhate	
17	72	Aman Zhambre	
18	57	Owais Shah	
19	61	Sachin Singh	
20	22.	Pavesh Gajrathi	
21	69.	Chandan Wagh.	
22	39	Atharva Langhe	
23	12	Akash Sanjay Deore	
24	20	Chinmay Deepak Ghodke	
25	11	Rishikesh. Arvind. Dawalkar	

Sr.No.

~~Roll.No~~	Roll.No.	Name Of Student	Sign
26	5	Vedant Vijay Bhamare	
27	58	SHWETA SHARDUL	
28	64	Dhanashree Thombare	
29	37	Shrutika R. kirge	
30	56	Snehal Ramrao Sarode	
31	19	Akanksha D Gawale	
32	21	Pranjal . P. Ghule	
33	13	Rupali . R. Dhavale	
34	76	Prerna . N. Gangurde	
35	7	Disha Bhavsar	
36	30	Apurva kale	
37	65	Simran Upasani	
38	52	PRATIBHA PINGLE	
39	44	Riddhi Nahar	
40	71	Utkarsha Wavdhane	
41	70	Renuka. S. wagh	
42	14	Bhakti Dhawale.	
43	50	Revati Pekhale	
44	15	Pallavi Dhokane	
45	33	Anuja Mukund Karpe.	
46	41	Kanchan Nandalal Maknor	
47	68	Bhumika Rajnish Vyas	
48	28	Nansi Amit Bhima	
49	27	Anushree Gharat	
50	63	Riddhi Jamdhade	
51	72	Abhishek Moranskar.	
52	29	Saurabh C. Kakad	
53	36.	Rohit Khairnar	
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Ms. D. R. Gatne
Subject Incharge

Dr. Swati Bhavsar
Expert

Savitribai Phule Pune University
Third Year of Computer Engineering (2015 Course)
310241: Theory of Computation

Teaching Scheme:	Credit	Examination Scheme:
TH: 04 Hours/Week	04	In-Sem (Paper): 30 Marks End-Sem (Paper): 70 Marks

Prerequisite: Discrete Mathematics

Course Objectives:

- To Study abstract computing models
- To learn Grammar and Turing Machine

Course Outcomes:

On completion of the course, student will be able to–

- Ability to design deterministic Turing machine for all input all output , NP Complete
- Ability to subdivide problems space based on input subdivision using constraints, grammar

Course Contents

Unit I	Formal Language Theory and Finite Automata	09 Hours

Introduction to Formal language, introduction to language translation logic, Essentials of translation, Alphabets and languages, Finite representation of language, **Finite Automata(FA)**: An Informal Picture of FA, Finite State Machine (FSM), Language accepted by FA, Definition of Regular Language, Deterministic and Nondeterministic FA(DFA and NFA), epsilon- NFA, FA with output: Moore and Mealy machines -Definition, models, inter-conversion.

Unit II	Regular Expressions (RE)	09 Hours

Operators of RE, Building RE, Precedence of operators, Algebraic laws for RE, Conversions: NFA to DFA, **RE to DFA Conversions:** RE to DFA, **DFA to RE Conversions:** State/loop elimination, Arden's theorem **Properties of Regular Languages:** Pumping Lemma for Regular languages, Closure and Decision properties

Unit III	Context Free Grammars (CFG) and Languages	09 Hours

Introduction, Regular Grammar, **Context Free Grammar**- Definition, Derivation, Language of grammar, sentential form, parse tree, inference, derivation, parse trees, ambiguity in grammar and language- ambiguous Grammar, **Simplification of CFG:** Eliminating unit productions, useless production, useless symbols, and ϵ-productions, **Normal Forms**- Chomsky normal form, Greibach normal form, Closure properties of CFL, Decision properties of CFL, Chomsky Hierarchy, **Application of CFG:** Parser, Markup languages, XML and Document Type Definitions.