



MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)
(An UGC Autonomous Institution, Affiliated to JNTUH, Hyderabad Accredited 2nd time by NAAC
with 'A' Grade & NBA and Recipient of World Bank Assistance under TEQIP--II S.C. 1.1)
Maisammaguda (H), Medchal-Malkajgiri District, Secunderabad,
Telangana State – 500100
www.mrec.ac.in

Department of Computer Science and Engineering

CIRCULAR

Date: 26/12/2016

All the students are hereby informed that Value Added Course on “**Data Structures**” on dated **4th Jan 2017 to 8th Feb 2017**, is being organized by the **Computer Science and Engineering** department. The resource person for the course is “**Mr BV Ramana, Assoc Prof, VNRVJIET**”.

Students are advised to register their names to the programme coordinator “**Mr.P. V.Ramana Murthy Associate Professor, CSE**”, on or before 02/01/2017 and utilize this opportunity to enhance their skills by attending the programme.

The detailed schedule of the programme will be displayed in the notice board.

Head of the Department

Copy to:

- 1) Circulation in Students classroom
- 2) All HOD's
- 3) Notice Boards
- 4) PA to principal for filing.



Raund
Principal
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Maisammaguda, Dhulapally,
(Post Via Kompally), Sec'bad-500100

About the Institution

Malla Reddy Engineering College (Autonomous) is one of the reputed engineering colleges in Hyderabad, Telangana. **MREC (A)** is part of Malla Reddy Group of Institutions (MRGI), founded by Sri. Ch. Malla Reddy, currently Hon'ble Minister, Labor and Employment, Factories, Women and Child Welfare and Skill Development, Govt. of Telangana State. The college is situated in a serene, lush green environment in Maisammaguda, Gundlapochampally, Medchal(M), Medchal-Malkajgiri District Telangana- 500100.

The college was established in 2002 and is an autonomous institution approved by UGC and affiliated to JNTUH. The college is re-accredited by NAAC with 'A' Grade (II Cycle) and was conferred autonomous status by JNTUH in 2011 and by UGC in 2014 for a period of 6 years. Our eligible UG and PG programs received NBA accreditation and some of them received reaccreditation too. The college caters to wide ranging aspirations and goals of student communities by offering new courses in UG courses provides PG courses and MBA along with programs in various streams of Engineering & Technology and Management. It boasts of world-class infrastructure and well-equipped laboratories in all departments and is skillfully and smartly guided by **Dr. S. Sudhakara Reddy, Principal, MREC (A)** who have a rich teaching and industrial experience.



Advisory Committee

Chief Patrons: Sri. Ch. Malla Reddy
Founder Chairman
Malla Reddy Group of Institutions

Patrons: Sri.Ch. Mahender Reddy
Secretary, MRGI
Dr.Ch.Bhadra Reddy
President, MRGI

Co-Patrons: Dr.S. Sudhakara Reddy
Principal, MREC (A)

Convener: Dr. R.P.Ram Kumar
HOD CSE

Coordinator: Mr.P. V.Ramana Murthy
Associate Professor, CSE

Resource Person: Mr.B.V.Ramana,
Associate Professor, VNRVJIET.

Organizing Committee:

Dr. R P Ramkumar, Professor, CSE

Dr. S. Dhanalakshmi, Professor, CSE

Mr. Sanjeeva Polepaka, Associate Professor, CSE

Mr. P.V.Ramana Murthy, Assistant Professor, CSE

Ms. S. Sandhya Ran, Assistant Professor, CSE

Mr.Md. Inayathulla, Assistant Professor, CSE

Mr.A.Lakshman, Assistant Professor, CSE

Mr.Yarava Rakesh Kumar, Assistant Professor, CSE

Mrs.G. Vamshi Krishna, Assistant Professor, CSE

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Principal
Malla Reddy Engineering College
Maisammaguda, Dhulapally,
(Post Via Kompally), Sec'bad-500100



*A One-Week Skill development Course
(Value added Course)*

On

"DATA STRUCTURES "

(4th January 2017 To 8th February 2017)

(4:30 P.M. To 5:30 P.M.)



Organized by
Department of
Computer Science and Engineering
MALLA REDDY ENGINEERING COLLEGE

(AUTONOMOUS) MAIN CAMPUS

An UGC Autonomous Institution, Approved by
AICTE & Affiliated to JNTUH-Hyderabad
Reaccredited by NAAC with 'A' Grade (II Cycle)
Maisammaguda(H), Gundlapochampally (V),
Medchal (M), Medchal - Malkajgiri District
Telangana - 500100, India.

Registration Form

Name of the Participant :-----

Branch & Year :-----

Name of Institution:-----

Address for Communication:-----

Mobile Number:-----

E-Mail ID:-----

DECLARATION:

The information furnished above is true to the best of my Knowledge.

Place:

Date:

Signature of Applicant



About the Department

The Department of CSE was started in the year 2005 with a vision of imparting high-quality education to suite the global standards in Computer science and Engineering. The department has got highly qualified & committed faculty members supported by dedicated technical staff.

The department has its own library and sophisticated laboratories not only to suite curriculum requirements but also to serve research needs such as Computer Networks, Data Mining, Software Engineering, Image processing & Cloud Computing. Workshops, software simulation etc.

The department formed CSI and ISTE student branch for the benefit of students and faculty by conducting technical Conferences, workshops, FDPs and Guest lectures.

Overview of the Programme

The **DATA STRUCTURES ANALYSIS ALGORITHM** course help to design the algorithms for solving different types of problems in computer science. It also helps to design and analyze the logic on how the program will work before developing the actual code for a program.

The **DATA STRUCTURES ANALYSIS ALGORITHM** certification validates your skills and knowledge in algorithm design and problem solving techniques.

Objectives of the Programme

- Understand and remember analysis procedure.
- Introduce the concept of data structures through ADT including List, Stack, Queues.
- Understand design and implement various data structure algorithms.
- Able to introduce various techniques for representation of the data in the real world.
- To develop application using data structure algorithms.

Topics to be covered

- Basics of Algorithm Design
- Algorithm Methods
- Dynamic Programming and Optimization Techniques
- Back tracking and Branch and Bound

Certificate

After successful completion of the course the certificates shall be issued to the participants.

Outcome of the program,

On completion of this course, participants will be able to equip with all the skills required to match their expectations.

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VAC DATA STRUCTURES SYLLABUS

1. Introduction -Algorithm, Pseudo code for expressing algorithms, Performance Analysis-Space complexity, Time complexity, Asymptotic Notations, Amortized analysis.
2. Disjoint Sets -Disjoint set operations, union and find algorithms, spanning trees, connected components and bi connected components.
3. Divide and Conquer - General method, applications-Binary search, Quick sort, Merge sort, Strassen_s matrix multiplication
4. Greedy method General method, applications-Job sequencing with deadlines, general knapsack problem, Minimum cost spanning trees, Single source shortest path problem.
5. Dynamic Programming - General method, applications-Matrix chain multiplication, Optimal binary search trees, 0/1 knapsack problem .
6. Optimization Techniques - All pairs shortest path problem, travelling sales person problem, Reliability design.
7. Backtracking-General method, n-queen problem, sum of subsets problem, graph coloring, Hamiltonian cycles
8. Branch and Bound - General method, applications: Travelling sales person problem, 0/1 knapsack problem- LC Branch and Bound solution, FIFO Branch and Bound solution.
9. NP-Hard and NP-Completeness: Basic concepts, NP - Hard and NP Complete classes, Cook_s theorem, Deterministic and Non-Deterministic algorithms, NP-hard graph problems and scheduling problem

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Maisammaguda (H), Medchal-Malkajgiri District, Telangana State –
500100

Department: CSE

**Course Name: DATA
STRUCTURES**

**Date:04/01/2017-
08/02/2017**

Value Added Courses
List of Students enrolled and completed

Sl.No	Roll No	Name of the students	Year/Semester
1	14J41A05E4	Jangapelli Nineesha	III/II
2	14J41A05E5	J Chakradhar	III/II
3	14J41A05E6	J Shiva Kumar	III/II
4	14J41A05E7	Joorigala Niharika	III/II
5	14J41A05E8	Kolla Nikhil Reddy	III/II
6	14J41A05E9	K V Vamshi Krishna	III/II
7	14J41A05F0	Kalyanam Kalyani	III/II
8	14J41A05F1	Karishma M Wadhe	III/II
9	14J41A05F2	Karuturi Reshmi Chowdary	III/II
10	14J41A05F3	Kodamagundla Prem Sharan	III/II
11	14J41A05F4	L Sai Deepak	III/II
12	14J41A05F5	Lingampalli Suresh	III/II
13	14J41A05F6	Manikya Joanna Pranathi	III/II
14	14J41A05F7	Metpally Nikhil	III/II
15	14J41A05F8	Matteddula Sri Lakshmi	III/II
16	14J41A05F9	Madhunala Sai Meghana	III/II
17	14J41A05G0	Mandati Akhil Reddy	III/II
18	14J41A05G1	Marri Manisha	III/II
19	14J41A05G2	Murahari Rohit	III/II
20	14J41A05G3	Nagandla Manasa	III/II
21	14J41A05G4	Potturu Eswar	III/II
22	14J41A05G5	Pabba Sahithya	III/II
23	14J41A05G6	Potharaju Nikhil Kumar	III/II
24	14J41A05G7	Sriram Sai Kiran	III/II
25	14J41A05G8	Tiruvalluri Jajajeevaraj Enosh	III/II
26	14J41A05G9	T Manish	III/II
27	14J41A05H0	Tejavath Mahesh Kumar	III/II
28	14J41A05H2	Varikuntla Karthik	III/II
29	14J41A05H3	Vakdoth Sridhar	III/II
30	14J41A05H4	Vangapandu Sai Kumar	III/II
31	14J41A05H5	Nagori Vinayak Kumar	III/II
32	14J41A05H6	Vutla Nvs Manidhar	III/II

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33	14J41A05H7	Yeruva Keerthi	III/II
34	14J41A05H8	Yappuram Sumana	III/II
35	14J41A05H9	Yerragonda Nageswara Rao	III/II
36	14J41A05J0	Yerramshetty Sai Praneeth	III/II
37	14J41A05J1	Sri Navya A	III/II
38	14J41A05J2	Achanta Sravya	III/II
39	14J41A05J3	Aman Kumar Singh	III/II
40	14J41A05J4	Arumalla Hema Sunanda	III/II
41	14J41A05J5	Ashok Anusha	III/II
42	14J41A05J6	Ashok Ayushi	III/II
43	14J41A05J7	Bairapogu Divya	III/II
44	14J41A05J8	Barigela Sandyarani	III/II
45	14J41A05J9	Boga Sai Santosh	III/II
46	14J41A05K0	Bommadi Harini	III/II
47	14J41A05K1	Bommi Yashwanth Simha	III/II
48	14J41A05K2	Bondili Sai Santosh Singh	III/II

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

VAC- Data Structures- Summary

10.02.2017

The cryptic world of Information Technology is an ever-evolving vortex. The wide array of information that is implemented by various programming languages on a daily basis forms the very backbone of this thriving industry, which can be aptly defined as a 'complex fabrication of code and data'. The concept of "Data Structures" is an irreplaceable tool in this aspect. It incorporates within itself, a logical and definite relation with data. This way, it not only simplifies but also enhances the user's capability of 'effective code execution'. Although being an immensely useful tool for the students, they often find it difficult to grasp its basic concepts. Therefore, along with a motive and zeal to educate the "budding coders", the Department of CSE organized a 30+ hour from 4th Jan 2017 to 10th Feb 2017 on the 'Data Structures'.

The speaker introduced the students to some basic concepts of Arrays, Pointers, Stacks and Queues. The constant doubt clearing sessions and real-life illustrative examples by the speaker ensured proper application of the concepts. Some sessions focused on one of the most important topics- Linked Lists and their implementation. "The other sessions with a brief brushing up of the concepts and some home tasks given to the students.

The students were provided with questions on the previous day, which had to be solved using the concepts already taught. Their answers were discussed and the tutors then moved to a new topic, Binary Trees. They explained the concept of a binary tree through theoretical and practical examples and made sure that all doubts were cleared before proceeding further with the topic. After teaching for a while, the students were made to solve a simple problem based on whatever that had been taught to them so far.

The tutors then moved on to elaborate the different types of traversal in a tree-like, pre-order, in-order, and post-order traversal. They also explained a Binary Search Tree, and its use to find a solution, or to search for a data in a Sorted Tree. The day concluded with deletion of a Node in a Tree and its different applications.

Carrying on with the tutorial aspects, the first topic that was covered was Graphs and its various types. The speaker explained the tiniest detail with extreme precision and all the doubts were solved. The next topic that ticked off the list was 'Searching in Graphs', which included Breadth-First Search Algorithm and Depth. 'Minimum Spanning Tree' was their next focus. Towards the end of the workshop, the students were taught tricky algorithms like 'Prim' and 'Dijkstra'.

The 30+ hour course is quite evidently proved to be beneficial for all those who attended it, especially the new-comers who now seem to have got a good grasp over the topics and more importantly, a greater desire for learning. Certificates are issued to students at the end.

Ravi
Principal
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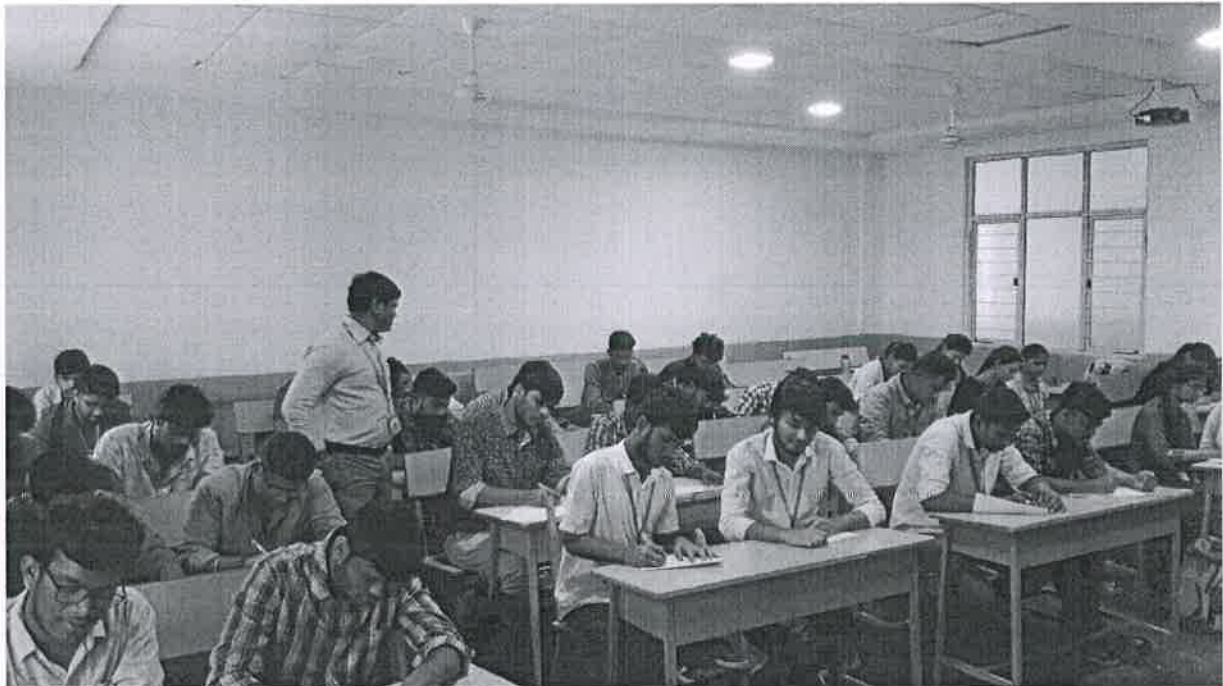
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VAC DATA STRUCTURE



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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

CERTIFICATE OF COMPLETION

This is to certify that Mr./Ms. Kolla Nikhil Reddy bearing Roll No. 14J41A05E8 has successfully completed Certificate / Value Added Course / Workshop in DATA STRUCTURES conducted by the Department of Computer Science and Engineering from 04th January 2017 to 8th February 2017.

P.V. Ravi
COORDINATOR



Ravi
Malla Reddy Engineering College
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Principal

[Signature]
HOD

[Signature]
PRINCIPAL



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CERTIFICATE OF COMPLETION

This is to certify that Mr./Ms. L Sai Deepak bearing Roll No. 14J41A05F4 has successfully completed Certificate / Value Added Course / Workshop in DATA STRUCTURES conducted by the Department of Computer Science and Engineering from 04th January 2017 to 8th February 2017.

P.V.V.V.
COORDINATOR



Naresh

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CERTIFICATE OF COMPLETION

This is to certify that Mr./Ms Nagandla Manasa bearing Roll No. 14J41A05G3 has successfully completed Certificate / Value Added Course / Workshop in DATA STRUCTURES conducted by the Department of Computer Science and Engineering from 04th January 2017 to 8th February 2017.

A.V. Ravi
COORDINATOR



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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

CERTIFICATE OF COMPLETION

This is to certify that Mr./Ms. Sri Navya A bearing Roll No. 14J41A05J1 has successfully completed Certificate / Value Added Course / Workshop in DATA STRUCTURES conducted by the Department of Computer Science and Engineering from 04th January 2017 to 8th February 2017.

A.V.R.
COORDINATOR



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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

CERTIFICATE OF COMPLETION

This is to certify that Mr./Ms Bommadi Harini bearing Roll No. 14J41A05K0 has successfully completed Certificate / Value Added Course / Workshop in DATA STRUCTURES conducted by the Department of Computer Science and Engineering from 04th January 2017 to 8th February 2017.

A.K.V.
COORDINATOR



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HOD

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