G.Narayanamma Institute Of Technology & Science
(Autonomous)   (For Women)
Shaikpet, Hyderabad – 500104.
Department of IT

Value added course on Algodynamics

Course Objectives

This course introduces algorithms from a systems perspective. In this course,

1. The student will learn a very general technique of modelling algorithms based on transition systems that is independent of a programming language.
2. The student will use the transition system model to guide the writing of running code.
3. The student will learn how to systematically trace a transition system in an interactive way.

4. The student will learn general concepts and principles of systems which are used in other domains of engineering (system, state space, control, etc.)

Course Outcomes

1. Write models for standard algorithms on natural numbers, and list, tree and graph data structures.
2. Convert these models to code.
3. Trace an algorithm in a systematic way.
4. Explain the working of an algorithm in a systematic and concise way.
5. Informally argue about the termination and correctness of the algorithm.

Course Duration:30 hrs

List of Topics:

1. Motivation: Computing as a System Science
2. Infinite Sequences
3. Iterative Systems
4. Examples of Iterative Systems
5. Autonomous Differential Equations and Iterative Systems
6. Fixed Point Iteration and Limit Maps
7. More examples of Fixed Point Iteration
8. Induction and Invariance
9. Bound Functions and Convergent Iterative Systems

Start date:7th april 2021

List of Students attended the Course of Aerodynamics   Date : 7/4/2021

S.No	Name	Roll No.	Dept	Sec	mail Id	mobile number
1	Juloori Sravika	18251A1213	IT	A	juloori.sravika654@gmail.com	9381221696
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Algodynamics course is a good platform to address some issues, problems and doubts related to algorithm design and development and give the students to get deeper understanding on subjects and concepts.

It was the workshop conducted by IT department, GNITS in association with Prof Venkatesh .C, IIIT Hyderabad. This course was conducted for a batch of 31 students. The course started on 7th April 2021 , with a class on every Wednesday and Saturday from 4 to 5:30pm in online mode .

The following topics were explained in detail during the sessions

1. Motivation: Computing as a system science
2. Infinite sequences
3. Iterative systems
4. Autonomous Differential equations and limit maps
5. Fixed point iteration and limit maps
6. Induction and invariance
7. Bound Functions.
8. Convergent iterative systems

The overall feedback of the course was good.

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