NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

COURSE PLAN – PART I			
Name of the programme and specialization	**B.Tech. Computer Science and Engineering**		
Course Title	**Algorithms Lab**		
Course Code	**CS LR23**	**No. of Credits**	**2**
Course Code of Pre-requisite subject(s)	**CSPC21,CSLR21**		
Session	**Jan 2020**	**Section (if, applicable)**	**A & B-IV Semester**
Name of Faculty	**Dr. M. Brindha**	**Department**	**CSE**
Email	brindham@nitt.edu	**Telephone No.**	0431- 2503218
Name of Course Coordinator(s) (if, applicable)	NA		
E-mail		**Telephone No.**	
Course Type	**Lab Course**		

Syllabus (approved in Senate)

COURSE OBJECTIVES

- To program brute force, divide and conquer, greedy, dynamic techniques and approximation algorithms etc.

COURSE OUTCOMES (CO)

- Ability to solve and analyze general algorithms based on space and time complexity
- Ability to implement and empirically compare fundamental algorithms and data structures to real world problems
- Knowledge about different algorithmic paradigms and optimization

Course Outcome (CO)	Aligned programme Outcome
Ability to solve and analyze general algorithms based on space and time complexity	1, 5,6
Ability to implement and empirically compare fundamental algorithms and data structures to real world problems	1,2,5,6

Knowledge about different algorithmic paradigms and optimization	1,2,5,6

COURSE PLAN – PART II

COURSE OVERVIEW

This course mainly covers implementation of different design techniques.

COURSE TEACHING AND LEARNING ACTIVITIES

S.No.	Week	Topic	Mode of Assessment
1.	I Week	Algorithms based on number theory such as Euclidean algorithm etc.	Demo
2.	II Week	Algorithms based on number theory such as Euclidean algorithm etc.	Demo
3.	III Week	Priority queue programs	Demo
4.	IV Week	Divide and conquer	Demo
5.	V Week	Divide and conquer	Demo
6.	VI Week	Greedy algorithms	Demo
7.	VII Week	Dynamic programming	Demo
8.	VIII Week	Dynamic programming	Demo
9.	IX Week	Graph algorithms: BFS, DFS	Demo
10.	X Week	Graph algorithms: Prims, Kruskal, Dijkstra's algorithm	Demo
11.	XI Week	Approximation algorithms	Demo
12.	XII Week	Approximation algorithms	Demo

Text Book

1. T. Cormen, C. Lieserson, R. Rivest, and C. Stein, "Introductions to Algorithms", Prentice-Hall/India, 3rd edition, 2009

COURSE ASSESSMENT METHODS-LAB

S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
1.	Continuous Assessment	Every week	3 hours	70%
2.	Final Assessment	As per Academic schedule	3 hours	30%
3.	Compensation assessment	Every week	3 hours	20% (only for 2 continuous assessments)
TOTAL				**100%**

***mandatory**

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COURSE EXIT SURVEY (mention the ways in which the feedback about the course shall be assessed)

1. Students' feedback through class committee meetings.
2. Feedback questionnaire from students – from MIS at the end of the semester.

COURSE POLICY (preferred mode of correspondence with students, compensation assessment policy to be specified)

MODE OF CORRESPONDENCE (email/ phone etc)

Mode of Correspondence through Email/Phone.

COMPENSATION ASSESSMENT POLICY

In case of emergency or OD, the student should submit compensatory assessments on submission of appropriate documents as proof.

ATTENDANCE POLICY (A uniform attendance policy as specified below shall be followed)

- **At least 75% attendance in each course is mandatory.**
- **A maximum of 10% shall be allowed under On Duty (OD) category.**
- Students with **less than 65% of attendance** shall be prevented from writing the final assessment and **shall be awarded 'V' grade.**

ACADEMIC DISHONESTY & PLAGIARISM

- Possessing a mobile phone, carrying bits of paper, talking to other students, copying from others during an assessment will be treated as punishable dishonesty.
- Zero mark to be awarded for the offenders. For copying from another student, both students get the same penalty of zero mark.
- The departmental disciplinary committee including the course faculty member, PAC chairperson and the HoD, as members shall verify the facts of the malpractice and award the punishment if the student is found guilty. The report shall be submitted to the Academic office.
- The above policy against academic dishonesty shall be applicable for all the programmers.

ADDITIONAL INFORMATION

The students can get their doubts clarified at any time with their faculty member.

FOR APPROVAL

Course Faculty _____ **CC-Chairperson** _____ **HOD** _____ 27/11/20

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