NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI

DEPARTMENT OF COMPUTER APPLICATIONS

COURSE PLAN – PART I			
Name of the programme and specialization	MCA		
Course Title	Data Structures using C Lab		
Course Code	CA701	**No. of Credits**	**2**
Course Code of Pre-requisite subject(s)			
Session	**July 2019**	**Section (if, applicable)**	**A**
Name of Faculty	**Dr. R. Eswari**	**Department**	**Computer Applications**
Official Email	**eswari@nitt.edu**	**Telephone No.**	**0491-2503744**
Name of Course Coordinator(s) (if, applicable)	**Dr. B. Janet**		
Official E-mail	janet@nitt.edu	**Telephone No.**	**0437-2503741**
Course Type (please tick appropriately)	☑ **Core course**	☐ **Elective course**	

Syllabus (approved in BoS)

Exercises for learning basic features of C and exercises to implement various data structures for real world applications.

COURSE OBJECTIVES

1. Understand C programming
2. Build and manipulate linear and non-linear data structures
3. Perform sorting, searching and merging data
4. Choose the appropriate data structure to use in solving typical computer science problems

MAPPING OF COs with POs

Course Outcomes	Programme Outcomes (PO) (Enter Numbers only)
1. Write C programs for solving any problems	**1,2,3**
2. Implement linear and nonlinear data structures to solve real-time problems	**1,2,3,4**
3. Perform searching and sorting techniques to different application domains	**1,2**
4. Implement different design strategies to solve complex problems	**2,3,4**

COURSE PLAN – PART II

COURSE OVERVIEW

This course concentrates on implementation of various application with appropriate use of data structure under object oriented programming environment. This course allows students to understand practically the representation of data, algorithms, operations on data structures such as stacks, queues, linked list, tree and its variations, graph as well as efficient sorting and searching techniques performed on data.

COURSE TEACHING AND LEARNING ACTIVITIES

(Add more rows)

S.No.	Week/Contact Hours	Topic	Mode of Delivery
1	1	Implementation of an application using 2D array	
2	2	Implementation of an application using stack	
3	3	Implementation of an application using linked list	
4	4	Implementation of an application using tree	
5	5	Implementation of an application using hash table	
6	6	Implementation of an application using binary tree	
7	7	Implementation of an application that requires sorting of data using an efficient sorting technique	
8	8	Implementation of an application using Trie data structure	
9	9	Implementation of an application using graph data structure	
10	10	Implementation of an application using B+ tree	

COURSE ASSESSMENT METHODS (shall range from 4 to 6)

S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
1	Evaluation-1	4	Lab duration	20
2	Evaluation-2	8	Lab duration	15
3	Lab record	12		10
CPA	Compensation Assessment*	End of lab	Lab duration	35
4	Evaluation-3	12	Lab duration	25
6	Final Assessment *	End of lab	Lab duration	30

***mandatory; refer to guidelines on page 4**

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

- The students through the class representative may give their feedback at any time to the course faculty which will be duly addressed.
- The students may also give their feedback during Class Committee meeting.

COURSE POLICY (including compensation assessment to be specified)

MODE OF CORRESPONDENCE (email/ phone etc)

The students can get the availability of faculty member over phone and email. They can get their doubts clarified at any time with their faculty member with prior appointment.

COMPENSATION ASSESSMENT

One compensation assessment for absentees in assessments (other than final assessment) is mandatory. Only genuine cases of absence shall be considered.

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 programmes.

ADDITIONAL INFORMATION, IF ANY

FOR APPROVAL

Course Faculty _____ **CC- Chairperson** _____ **HOD** _____