



DEPARTMENT OF MATHEMATICS

COURSE PLAN – PART I			
Name of the programme and specialization	M.Sc., Mathematics		
Course Title	Programming in C		
Course Code	MA709	No. of Credits	03
Course Code of Pre-requisite subject(s)	NIL		
Session	July 2019	Section (if, applicable)	-
Name of Faculty	Dr. R. Tamil Selvi	Department	Mathematics
Email	<a href="mailto:tamil@nitt.edu">tamil@nitt.edu</a>	Telephone No.	7598176202
Name of Course Coordinator(s) (if, applicable)	-		
E-mail	-	Telephone No.	-
Course Type	<input checked="" type="checkbox"/> Core course	<input type="checkbox"/> Elective course	
<b>Syllabus (approved in BoS)</b>			
<p><b>Introduction to C:</b> The C character set - Identifiers, Constants and keywords -Primitive datatypes - Operators and Expressions-Library functions- Data Input and Output.</p> <p><b>Control Statements:</b> Nested control structures - Functions-Function prototypes -Passing arguments to a function.</p> <p><b>Program Structure:</b> Storage classes -Arrays-Declaration, initialization, and accessing array elements- Arrays and strings.</p> <p><b>Pointers:</b> Pointer declarations -Passing pointers to a function -Pointers and one dimensional arrays -Dynamic memory allocation -Operations on pointers -Pointers and multidimensional arrays -Arrays of pointers -Passing functions to other functions.</p> <p><b>Structures and Unions:</b> Defining a structure -Processing a structure -User-defined datatypes(typedef) -Structures and pointers -Passing structures to functions -Self-referential structures. Data Files-Operations-Formatted input and output- Character input and output.</p>			
<b>ESSENTIAL READINGS : (Textbooks, reference books etc.)</b>			
<ol style="list-style-type: none"> <li>1. B. S. Gottfried &amp; J. K. Chhabra, Programming with C, Second Edition, Tata McGraw-Hill, New Delhi, 2006.</li> <li>2. B.W. Kernighan &amp; D. M. Ritchie, The C Programming Language, Second Edition, Prentice Hall of India Pvt. Limited, New Delhi, 2006.</li> <li>3. V. Rajaraman, Computer Programming in C, Prentice Hall of India Pvt. Ltd. New Delhi, 2004.</li> <li>4. E. Balagurusamy , Programming in ANSI C by, 7th Edition, Tata McGraw-Hill Publishing Co. Ltd., New Delhi, 2017.</li> </ol>			



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This course makes the student to

1. understand and write programs in language of C for the given problems.
2. analyze the concepts of arrays and tables for storage
3. involve in creating files for the problems.
4. interpret the programs through pointers.

### COURSE OUTCOMES (CO)

Course Outcomes	Aligned Programme Outcomes (PO)
On completion of this course students will be able to	
1. write structured pseudo codes for a given problem.	(i) progress the critical analysis and problem solving skills required for R & D organization and industry.  (ii) engage independent and lifelong learning with a high level of enthusiasm and commitment to improve knowledge and competence continuously.  (iii) contribute significantly in academics through teaching and research.
2. design programs in C for any given problem.	
3. manage writing programs for complex problems.	
4. attain the capability of developing files through pointers.	

### COURSE PLAN – PART II

#### COURSE OVERVIEW

This course will introduce

1. structured pseudo codes for a given problem.
2. Program designing in C using control statements, loop structures and arrays.
3. Functions and pointers to write C programs.

#### COURSE TEACHING AND LEARNING ACTIVITIES

S.No.	Week/Contact Hours	Topic	Mode of Delivery
1.		Introduction to computers, terminologies	Chalk and Talk



	1 <sup>st</sup> , 2 <sup>nd</sup> & 3 <sup>rd</sup> week	Character set- Identifiers, Constants and keywords-examples and exercises, Primitive datatypes- Operators and Expressions-Library functions	
2.	4 <sup>th</sup> , 5 <sup>th</sup> & 6 <sup>th</sup> week	Control statements-loop structures –arrays-types- examples and exercises	Chalk and Talk
3.	7 <sup>th</sup> Week	<b>Assessment - 1</b>	
4.	7 <sup>th</sup> & 8 <sup>th</sup> week	String manipulations-functions- examples and exercises.	Chalk and Talk
5.	9 <sup>th</sup> , 10 <sup>th</sup> & 11 <sup>th</sup> week	Pointers and functions - examples and exercises.	Chalk and Talk
6.	12 <sup>th</sup> Week	<b>Assessment - 2</b>	
7.	13 <sup>th</sup> week	<b>Compensation Assessment</b>	
7.	13 <sup>th</sup> & 14 <sup>th</sup> Week	Structures and files- examples and exercises.	Chalk and Talk
8.	After 14 <sup>th</sup> Week	<b>Assessment-4 (End Semester Exam)</b>	

**COURSE ASSESSMENT METHODS (shall range from 4 to 6)**

S.No.	Mode of Assessment	Week / Date	Duration	% Weightage
1.	Assessment - 1	7th Week	1 hour	20%
2.	Assessment - 2	12 <sup>th</sup> Week	1 hour	20%
3.	Assessment - 3 (Assignment)	6 <sup>th</sup> week and 12 <sup>th</sup> week	-	10%
CPA	Compensation Assessment	13 <sup>th</sup> Week	1 hour	20%
5.	Assessment-4 (End Semester Exam)	after 14 <sup>th</sup> Week	3 hours	50%

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

1. Students can meet the faculty (with prior appointment) at any stage in the course duration in case he/she finds difficulty in understanding the topic.
2. Feedback form will be issued to students to express their comments about the course after completing the syllabus. Students are requested to give genuine feedback about the course.
3. Student knowledge about the topic covered in this course will be judged through marks obtained



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in examination.

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

#### **MODE OF CORRESPONDENCE (email / phone etc)**

Students can meet the course faculty by fixing appointment through E-mail ([tamil@nitt.edu](mailto:tamil@nitt.edu)) between 9:30 am to 5:30 pm from Monday to Friday.

#### **COMPENSATION ASSESSMENT POLICY**

1. Students who have missed the assessment-1 or assessment-2 or both can register for compensatory assessment which shall be conducted soon after the completion of the assessment 2 and before the regular semester examination. Other students were strictly NOT allowed to register for compensation assessment.
2. The compensation assessment shall be conducted for 20 marks comprising the syllabus of both assessment 1 and assessment 2.
3. Students should submit assignments before last date of submission. In case students fail to submit their assignments, he/she will get zero mark for that particular assignment.
4. The Institute follows relative grading with flexibility given to class committee to decide the mark ranges for grades. All assessment of a course will be done on the basis of marks.
5. There will be one Reassessment for the students who have secured "F" in this course and will be conducted within a month from reopening of institute for next semester. Students should register their names with course teacher to appear for reassessment within three days from reopening of institute for next semester. If the students satisfy the criteria fixed by the faculty to promote E grade will be given E grade and others given 'F' grade.

#### **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.



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- 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: -**

**FOR APPROVAL**

Dr. R. TAMIL SELVI  
Course Faculty

Dr. D. DEIVAMONEY SELVAM  
CC-Chairperson

Dr. P. SAIKRISHNAN  
HOD