

# St. Michael's College, Cherthala

Alappuzha, Kerala-688 539 Affiliated to University of Kerala and Re-accredited by NAAC with 'A' Grade



Name of the Programme : BASICS OF C PROGRAMMING Name of the Department : PHYSICS Course Code : PY 074



## St. Michael's College

MAYITHARA P.O., CHERTHALA, ALAPPUZHA-688539

An institution with Minority Status Affiliated to the University of Kerala and Re-accredited by NAAC with 'A' Grade

Add on Course - 2022-23

### CHEMISTRY

Food Science and Quality Control

**MANAGEMENT** Diploma in Port Operations and Management ( DPOM)

**PSYCHOLOGY** Guidance Counciling and Psychology of Interpersonal Relationships

SOFTWARE DEVELOPMENT Python

## ZOOLOGY

Techniques in Coastal Aquaculture

## ENGLISH

(Certificate Course) Basic Proficiency in English Language **COMMERCE** Certified Insurance Advisor and

Risk Analyst ( CIARA)
ECONOMICS
Statistical Data Analysis

Statistical Data Analysis Using Software Packages

**PHYSICS** Basics of C Programming

**TOURISM STUDIES** Customer Service Skills

#### HISTORY (Certificate Course) Introduction to Indian Constitution

MALAYALAM (Certificate Course) Madhyama Malayalam



Phone : 0478-2822387, 2810387 Email : michaelscherthala@gmail.com. Web : www.stmcc.in NAME OF COURSE: BASICS OF C PROGRAMMINGCOURSE CODE: PY 074NO OF STUDENTS ENROLLED: 30

#### **CONTENTS**

- > SYLLABUS
- > CLASS SCHEDULES
- > ATTENDANCE STATEMENT
- > QUESTION PAPER
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- ➢ REPORT

#### Course objective:

- To teach the basic principles of C programming language.
- To provide design and development of C programming skill.
- To provide practical exposure to write, debug and execute the C program.

#### Course outcome:

- Gaining knowledge on basics of parts of a computer.
- Able to draw the flow chart of and write algorithms.
- Able to design and develop C Problem solving skill.
- Able to develop small programming in C.
- Able to debug a program.
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The course has two sessions

1.Theory session (17 hrs)

2. Practical Session (15hours)

#### Basics of C Programming (32hrs)

Introduction to Programming languages, History of C programming Language, Applications of C, Basic structure of a C programming, Tokens in C -Keywords and Identifiers-Introduction to data types in C, Scope of Local and Global variable, Operators and Expressions -Console I/O operations – printf() and scanf(), Decision making statements, Control flow statements- Unconditional branching statements, Conditional control flow statements, Loop control in C ,Functions in C- Function calling - Call by value and Call by reference, Return type in function, User defined functions- Arrays -1-D array,2-D array-Introduction to pointer variable

#### List of experiments

- 1. Palindrome
- 2. Fine the square root of number
- 3. Leap Year
- 4. Matrix Creation
- 5. Matrix Addition and subtraction
- 6. Matrix Multiplication
- 7. Factorial of a given number
- 8. Fibonacci Series
- 9. Student records using arrays
- 10. Sum, Mean and average using Pointers

|       |               | <u>Class</u> | Schedule Format 2 | 2022-2023                      |       |  |  |  |
|-------|---------------|--------------|-------------------|--------------------------------|-------|--|--|--|
|       | Department:Ph | <u>ysics</u> |                   | Course:Basics of C Programming |       |  |  |  |
| SI No | Date          | Day          | Time              | Name of Teacher                | Class |  |  |  |
|       |               |              |                   |                                | Room  |  |  |  |
|       |               |              |                   |                                | No    |  |  |  |
| 1     | 20-09-2022    | 1            | 3.30 to 4.30      | Dr.Mini P A                    | A12   |  |  |  |
| 2     | 22-09-2022    | 2            | 3.30 to 4.30      | Dr.Dhwajam D B                 | A12   |  |  |  |
| 3     | 23-09-2022    | 3            | 3.30 to 4.30      | Dr.Smisha M A                  | A12   |  |  |  |
| 4     | 24-09-2022    | 4            | 9.30 to 3.30      | Dr.Mini P A                    | B.Voc |  |  |  |
|       |               |              |                   |                                | Lab   |  |  |  |
| 5     | 27-09-2022    | 5            | 3.30 to 4.30      | Dr.Mini P A                    | A12   |  |  |  |
| 6     | 28-09-2022    | 6            | 3.30 to 4.30      | Dr.Dhwajam D B                 | A12   |  |  |  |
| 7     | 29-09-2022    | 7            | 3.30 to 4.30      | Dr.Smisha M A                  | A12   |  |  |  |
| 8     | 01-10-2022    | 8            | 9.30 to 3.30      | Dr.Smisha M A                  | B.Voc |  |  |  |
|       |               |              |                   |                                | Lab   |  |  |  |
| 9     | 11-10-2022    | 9            | 3.30 to 4.30      | Dr.Mini P A                    | A12   |  |  |  |
| 10    | 12-10-2022    | 10           | 3.30 to 4.30      | Dr.Dhwajam D B                 | A12   |  |  |  |
| 11    | 13-10-2022    | 11           | 3.30 to 4.30      | Dr.Smisha M A                  | A12   |  |  |  |
| 12    | 15-10-2022    | 12           | 9.30 to 3.30      | Dr.Dhwajam D B                 | B.Voc |  |  |  |
|       |               |              |                   |                                | Lab   |  |  |  |
| 13    | 18-10-2022    | 13           | 3.30 to 4.30      | Dr.Mini P A                    | A12   |  |  |  |
| 14    | 19-10-2022    | 14           | 3.30 to 4.30      | Dr.Dhwajam D B                 | A12   |  |  |  |
| 15    | 20-10-2022    | 15           | 3.30 to 4.30      | Dr.Smisha M A                  | A12   |  |  |  |
| 16    | 25-10-2022    | 16           | 3.30 to 4.30      | Dr.Mini P A                    | A12   |  |  |  |
| 17    | 26-10-2022    | 17           | 3.30 to 4.30      | Dr.Dhwajam D B                 | A12   |  |  |  |
| 18    | 27-10-2022    | 18           | 3.30 to 4.30      | Dr.Smisha M A                  | A12   |  |  |  |

| 19          | 18           | 17          | 16                | 15           | 14                                    | 13            | 12          | H             | 10            | 9            | 8           | 7            | 6           | s           | 4             | ω                  | 2              | -               |            |              |  |
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#### St. Michael's College, Cherthala

#### **Add-on Course Examination March 2023**

#### **Discipline: Physics**

#### **Course Title: Basics of C Programming**

Time: 1 Hours Marks: 30 Max

#### SECTION A

(Answer all questions. Each question carries 1 mark)

- 1. What is a Token?
- 2. Explain the difference between = and == operator
- 3. What are Keywords?
- 4. Explain the term "SCOPE" of a variable.
- 5. Why C language is called a middle level language?
- 6. Execution of every C programme start with ------ Function.
- 7. What are statements in C programme?
- 8. What is the significance of expressions in C programme?
- 9. Define Identifiers.
- 10. Why Keywords cannot be used as Identifiers?

(10x1 =10 Marks)

#### SECTION B

(Answer any 5 questions. Each question carries 2 marks)

- 11. Name different types of loops in C with syntax
- 12. Explain the use of break and continue statement in loops with example.
- 13. What is an array? Explain the declaration and initialization of one- and two-dimensional arrays with example.
- 14. Explain the basic structure of a C programme
- 15. What is the difference between local and global variable
- 16. What is the difference between unary and binary Operator?
- 17. List the basic data types in C Programme.
- 18. Which is the function used to declare the functions that are not intended to return values?

(5x2 = 10 Marks)

#### SECTION C

(Answer any 1 question. Each question carries 10 marks)

- 19. What is an operator? Explain the arithmetic, relational, logical, and assignment operators in C language.
- 20. (a) Design and develop a C program to read a year as an input and find whether it is leap year or not.

(b)Design and develop a C program to find a given number is palindrome or not.

(1\*10=10 Marks)

|                        | Dis                                |                            |                  |            |            |
|------------------------|------------------------------------|----------------------------|------------------|------------|------------|
|                        | <u>Course Title</u>                | : Basics Of C Programming  |                  |            |            |
| Da                     | ate of Examination :<br>16/03/2023 | Maximum Marks:             | 30               |            |            |
| <u>SI</u><br><u>No</u> | Candidate Code                     | Name of the Student        | Mark<br>Obtained |            |            |
| <u>1</u>               | 23020136001                        | AKHIL DAMODAR M            | 21               | 70.00      | В          |
| 2                      | 23020136002                        | AKHIL JYOTHISH             | 17               | 56.67      | D          |
| <u>3</u>               | 23020136003                        | ALEN ALEX VARGHESE         | 0                | ABSEN<br>T | ABSEN<br>T |
| 4                      | 23020136004                        | ANN MARY PAUL              | 21               | 70.00      | В          |
| <u>5</u>               | 23020136005                        | ANUPAMA S                  | 16               | 53.33      | D          |
| <u>6</u>               | 23020136006                        | ASIF ANSARI                | 17               | 56.67      | D          |
| <u>7</u>               | 23020136007                        | ASWIN RAJ S.               | 21               | 70.00      | В          |
| 8                      | 23020136008                        | AVYA M                     | 22               | 73.33      | В          |
| <u>9</u>               | 23020136009                        | DILLYS DIXON               | 20               | 66.67      | С          |
| <u>10</u>              | 23020136010                        | DON SANTHOSH               | 22               | 73.33      | В          |
| <u>11</u>              | 23020136011                        | GOURI SUDHEER              | 25               | 83.33      | Α          |
| <u>12</u>              | 23020136012                        | GOUTHAM G                  | 23               | 76.67      | В          |
| <u>13</u>              | 23020136013                        | SULEKHA SHIBU              | 27               | 90.00      | A+         |
| <u>14</u>              | 23020136014                        | SWETHA S KUMAR             | 27               | 90.00      | A+         |
| <u>15</u>              | 23020136015                        | TOJU MATHEW                | 14               | 46.67      | E          |
| <u>16</u>              | 23020136016                        | AARON JOHAN FABER          | 21               | 70.00      | В          |
| <u>17</u>              | 23020136017                        | ABIN SABU                  | 22               | 73.33      | В          |
| <u>18</u>              | 23020136018                        | AKHILA MANOJ               | 26               | 86.67      | Α          |
| <u>19</u>              | 23020136020                        | AMAL XAVIER                | 21               | 70.00      | В          |
| <u>20</u>              | 23020136021                        | AMALJITH. T. A             | 16               | 53.33      | D          |
| <u>21</u>              | 23020136022                        | AMRUTHA ANIL               | 25               | 83.33      | А          |
| <u>22</u>              | 23020136023                        | ANUSREE RAJESH             | 20               | 66.67      | С          |
| <u>23</u>              | 23020136024                        | ASHIK MICHAEL              | 17               | 56.67      | D          |
| <u>24</u>              | 23020136025                        | IRFAN MUHAMMED<br>ROSHAN S | 21               | 70.00      | В          |
| <u>25</u>              | 23020136026                        | MARY ROSE A B              | 27               | 90.00      | A+         |
| 26                     | 23020136028                        | NIMMYMOL P X               | 21               | 70.00      | В          |

| <u>27</u> | 23020136029 | NOBIN ABRAHAM     | 21 | 70.00 | В |
|-----------|-------------|-------------------|----|-------|---|
| <u>28</u> | 23020136031 | SREELAL S         | 18 | 60.00 | С |
| <u>29</u> | 23020136032 | SREERAG R         | 18 | 60.00 | С |
| <u>30</u> | 23020136033 | T S ATHUL KRISHNA | 19 | 63.33 | С |

| St. Michael's College, Cherthala<br>Mayithara P.O., Cherthala,<br>Re-accredited by NAAC with % Grade | St. Michael's College, Cherthala<br>Mayithara P.O., Cherthala,<br>Re-accredited by NAAC with 'A' Grade |
|--|--|
| Add-on / Certificate Course  | Add-on / Certificate Cours   |
| Certificate of Merit   | Certificate of Merit   |
| AKHIL DAMODAR M  | This is to certify that Mr./Ms   |
| B.Sc Physics- 2020 Admission   | B.Sc Physics- 2020 Admission   |
| has completed certificate/Add-on course on   | has completed certificate/Add-on course onBasics of C Programming                                      |
| in the academic year 2022-2023.  | in the academic year 2022-2023.  |
| He/She is awarded with a gradeB  | He/She is awarded with a gradeD  |
| Head of the Department Co-ordinator Principal  | Head of the Department Co-ordinator Pri  |



#### ADD ON COURSE: Basics of C Programming (32hrs)

It is a Certificate course offered by the Department of Physics in association with the department of Vocational Disciplines in St. Michael's college, Cherthala.

**30 students from BSc physics admitted and 29 students successfully completed the certificate** course .

#### Admission eligibility:

- Admission into this Certification course will be approved on the basis of merit in Class 12.
- Candidates applying to this course should have basic awareness of computers and also programming techniques.

#### **Programme Objective:**

The course will provide a basic knowledge of C language and enables students to create logic to develop programs and applications in C language. Also, by learning the basic programming constructs they can easily switch over to any other language in future.

#### Duration: 6 months

#### **Examination and Evaluation:**

There will be periodical assignments, theoretical and practical examinations at the end of the course to evaluate the progress of students in their learning.Moreover, the essential purpose of evaluating student learning is to determine whether the students are achieving the learning outcomes laid out for them. A three hour examination will be conducted based on 60% weightage for theory and 40% weightage for practical.

#### Programme fees: 1000

#### **Duration of the program : 6 Months**

#### **Course objective:**

- To teach the basic principles of C programming language.
- To provide design and development of C programming skill.
- To provide practical exposure to write, debug and execute the C program.

#### **Course outcome:**

- Gaining knowledge on basics of parts of a computer.
- Able to draw the flow chart of and write algorithms.
- Able to design and develop C Problem solving skill.
- Able to develop small programming in C.
- Able to debug a program.

#### The course has two sessions

- 1. Theory session
- 2. Practical Session

#### **Syllabus:**

#### Basics of C Programming (32hrs)

Introduction to Programming languages, History of C programming Language, Applications of C, Basic structure of a C programming, Tokens in C -Keywords and Identifiers-Introduction to data types in C, Scope of Local and Global variable, Operators and Expressions -Console I/O operations – printf() and scanf(), Decision making statements , Control flow statements- Unconditional branching statements, Conditional control flow statements, Loop control in C ,Functions in C- Function calling - Call by value and Call by reference , Return type in function, User defined functions- Arrays -1-D array,2-D array-Introduction to pointer variable

#### List of experiments

- 11. Palindrome
- 12. Fine the square root of number
- 13. Leap Year
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- 15. Matrix Addition and subtraction
- 16. Matrix Multiplication
- 17. Factorial of a given number
- 18. Fibonacci Series
- 19. Student records using arrays
- 20. Sum, Mean and average using Pointers



Principal <sup>1</sup> St. Michael's College Cherthala