

Course: C

Course Code: C

Session: 2017-18

Duration: 4 Months

Assessment procedures: Proctored certification Exam (100%)

Curriculum of the Course:

Basic Level

1) First C Program

- -Header Files
 - example: `#include <stdio.h>`
- `main()`
- Curly braces { }
- `printf()`
- semicolon ;
- Compiling a C program
 - example: `gcc filename.c -o output parameter`
- Executing a C program
 - example: `./output parameter`
- Errors

2) First C++ Program

- Header files
 - --example: `#include <iostream>`
- `main()`
- Curly braces { }
- `-cout<<`
- semicolon ;
- Compiling a C++ program
 - example: `g++ filename.cpp -o output parameter`
- Executing a C program
 - example: `./output parameter`

3) Tokens in C and C++

- Data types, constants, identifiers
- Keywords
 - example: `if, break, else`

- Constants
- Data types
 - example: int, float, char, double
- Format specifiers
 - example: %d, %f, %c, %lf
- Range of data types
- Variables
- Identifier
- Errors

4) **Functions in C and C++**

- What is a function
- Syntax for declaration of a function
- Function with arguments
 - example: return-type function-name(parameter);
- Function without arguments
 - example: return-type function-name;
- Calling a function
- Errors

5) **Scope of Variables in C and C++**

- Introduction
- Syntax of declaring a variable
 - example: data-type var-name;
- Syntax for initializing a variable
 - example: data-type var-name = value;
- Scope of variables
- Global variable
- Local variable
- Error

6) **If And Else If statement in C and C++**

- What are Statements.
- Syntax for if and
- If-else Statement
- Errors

7) **Nested if and switch statement in C and C++**

- Nested if statement.

- Switch statement.
- Syntax for nested-if statement
- Syntax for switch statement
- break statement
- Comparison between nested if-else and switch statement
- Errors

8) Increment and Decrement Operators in C and C++

- Increment Operator
 - example: ++
- Postfix increment
 - example: a++
- Prefix increment
 - example: ++a
- Decrement Operator
 - example: --
- Postfix decrement
 - example: a--
- Prefix decrement
 - example: --a
- Typecasting
- Errors

9) Arithmetic Operators in C and C++

- Arithmetic Operators
- Addition Operator
 - example: a + b
- Subtraction Operator
 - example: a - b
- Multiplication Operator
 - example: a * b
- Division Operator
 - example: a \ b
- Modulus Operator
 - example: a % b
- Errors

10) Relational Operators in C and C++

- Double Equal to
 - example: `a == b`
- Not Equal to
 - example: `a != b`
- Greater Than
 - example: `a > b`
- Less Than
 - example: `a < b`
- Greater than Equal To
 - example: `a >= b`
- Less Than Equal To
 - example: `a <= b`
- Errors

11) Logical Operators in C and C++

- And `&&`
- Or `||`
- Not `!`
- Errors

Intermediate level

12) Loops in C and C++

- Loops
- Syntax for while and do-while loop
- Comparison of while and do-while loop
- Syntax for
- for loop
- Errors

13) Arrays in C and C++

- What are arrays
- 1-D Arrays
- Syntax for Declaration of arrays
 - example: `data type array_name [size];`
- Syntax for Initialization of arrays
 - example: `data type array_name [size]=value;`
- Accepting values from the user
- Errors

14) Working with 2-D Arrays in C and C++

- What are 2-D Arrays.
- Range of arrays
- Syntax for Declaration of 2-D arrays
 - example: data type array_name[row][column];
- Syntax for initialization of 2-D arrays
 - example: data type array_name[row][column]=
{
{row-val},{col-val}
};
- Errors

15) Strings in C and C++

- What is a string
- Syntax for declaring a string
- Syntax for initializing a string
- To read a string from keyboard
- Errors

16) String Library Functions in C and C++

- What are string library functions.
- Types of string library functions
 - Strcpy
 - Strlen
 - Strcmp
 - Strcat
- Errors

Advanced level

17) Working with Structures in C and C++

- Introduction
- Syntax of structures
- Declaration and initialization
- Declaration of structure variable
- Accessing structure variables

18) Understanding Pointers in C and C++

- Introduction
- Syntax of Pointer

- example: `int *iptr;`
- Declaration
 - example:

`int a; (integer a) int *aptr; (pointer to an integer *aptr) aptr = &a; (aptr set to address of a)`
Address Pointer

- Errors

19) Function call in C and C++

- types of function calls
- function pass by value
- function pass by reference

20) File Handling in C

- File handling functions
- Opening a File closing a file
 - example: `fopen`, `fclose`
- Reading data from a File

List of students enrolled

1	Abhishek Kumar Singh
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3	Aanshi Mehta
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5	Abhay Mishra
6	Abhinav Vijay
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10	Achal Gupta
11	Akanksha Khurana
12	Akshaya Khandelwal
13	Akshaya Makkar
14	Akshaya Rathi
15	Amanpreet Singh Bagga
16	Amresh Kumar
17	Ananya Gupta
18	Ankit Gupta
19	Ankit Jhokal
20	Ankit Kumar
21	Anmol Singhal
22	Anshul Jain

23	Daksh Jajpura
24	Archita Batra
25	Arnav Dudani
26	Arpit Khandelwal
27	Asish Kumar
28	Astha Bhargava
29	Avinash Nagar
30	Ayush Ranjan
31	Ayushi Midha
32	Bhanu Pratap Singh
33	Bhavya Kashyap
34	Chaitanya Sharma
35	Deepak Nehra
36	Devansh Sharma
37	Dipesh Kalal
38	Divya Shanker Acharya
39	Gaurav Mittal
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41	Harmukh Wattal
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43	Harsh Maheshwari
44	Harsh Rawat

45	Harshit Singh
46	Himanshu Yadav
47	Hritik Samaria
48	Isha Gupta
49	Kalpita Jain
50	Kapil Bhagchandani
51	Keshav Agarwal
52	Kishan Sharma
53	Komal Mishra
54	Lakshya Dosi
55	Madhav Dixit
56	Mahima Jain
57	Mahima Soni
58	Manthan Jain
59	Martand Kankar
60	Mayank Devnani
61	Mohit Sinwer
62	Monit Ranjan
63	Mridul Sharma
64	Nikhil Jain
65	Nikhil Kumawat
66	Palak Munet
67	Parul Singh
68	Piyush Jain
69	Pooja Khandelwal
70	Prabhat Jain
71	Pradeep Saini
72	Pranav Dixit
73	Prateek Agrawal
74	Prateek Talesara
75	Pravesh Chahar
76	Zuber Mohammed
77	Mihir Shah
78	Pushpak Gupta
79	Rahul Kumawat
80	Rajat Saini
81	Rishabh Verma
82	Sakshi Gupta
83	Sharon Thomas
84	Shashank Runthala
85	Shaurya Sisodia
86	Shelfali Arora
87	Shikhar Agarwal
88	Shivam Gupta
89	Shubham Tak
90	Shyam Murari Godara
91	Siddhant Jain

92	Siddharth Jain
93	Smriti Bagga
94	Snehil Bhatnagar
95	Tushar Mathur
96	Ujjwal Bansal
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98	Vaibhav Sharma
99	Varun Nagpal
100	Vibhu Jain
101	Yash Dagur
102	Harsh Sharma
103	Vinayak Mangal
104	Prachi Keswani
105	Prateek Bhatt
106	Pratik Bansal
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108	Riyansh Khandelwal
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110	Shriyansh Sharma
111	Wasim Khan
112	Yash Laddha
113	Yash Sharma
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117	Anshul Gakkhar
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124	Himanshu Modi
125	Himanshu Garg
126	Jitendra Chatwani
127	Jitendra Yadav
128	Kishan Kumar
129	Mamta Siyak
130	Mohit Soni
131	Saksham Kumar
132	Nikhil Mathur
133	Nilay Maheshwari
134	Nitesh Gupta
135	Pawan Sharma
136	Pranjal Agarwal
137	Prateek Sharma
138	Puneet Sharma

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140	Riya Sagar
141	Sagar Mochi
142	Saksham Jain
143	Satyam Kumar
144	Shagun Agarwal
145	Shiwanshu Mani
146	Shubham Baheti
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148	Simran Khameshara
149	Talib Hussain
150	Tanvi Garg
151	Tarun Bhambhani
152	Toshit Jain
153	Vivek Kumar Gupta
154	Aman Sharma
155	Anisha Mittal
156	Shivam Soni
157	Kaushal Kishor Agrawal
158	Neha Mathur
159	Aakriti Jain
160	Aayush Garg
161	Aayush Paliwal
162	Abdul Qadir
163	Akshay Kumar Sharma
164	Aniriudh Sethi
165	Anjali Poddar
166	Anurag Sharma
167	Ayush Gupta
168	Ayush Kothari
169	Bhavesk Kumar
170	Digvijay Singh Shekhawat
171	Divij Dhall
172	Hardik Sharma
173	Harshit Mehra
174	Harshit Sankhala
175	Hemang Joshi
176	Himanshu Sharma
177	Ishika Gupta
178	Keyur Jain
179	Kriyanshu Saraswat
180	Sakshi Dayani
181	Saumya Singh
182	Abhinav Singh
183	Abhishek Kumawat
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187	Ashwin Royal
188	Bhanwar Singh
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193	Hitesh Agarwal
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197	Kinjal Agrawal
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203	Nishant Nishu
204	Nishchal Shah
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207	Poonam Suthar
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209	Prateek Agarwal
210	Prateek Dwivedi
211	Prateek Navalakha
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214	Rajat Kriplani
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216	Ritika Goyal
217	Ruchika Thory
218	Samridhi Prasad
219	Saurabh Sisodia
220	Sharad Goyal
221	Shrestha Bansal
222	Shrey Maheshwari
223	Shubhankar Srivastava
224	Simran Dhingra
225	Sita Choudhary
226	Sumit Maindoliya
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250	Janak Rao
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254	Neha Sharma
255	Palak Saroja
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298	Naveen Sharma
299	Navya Solanki
300	Umang Arora
301	Priya Khandelwal
302	Charu Sharma
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