

Course: C

Course Code: C

Session: 2016-17

Duration: 4 months

Assessment procedures: Proctored certification Exam (100%)

Curriculum of the Course:

- 1 Introduction to C
- 2 Basic Level
- 3 Intermediate level
- 4 Advanced level

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

#	Name of Student		
1	URVI SHARMA	15	AMAN GOYAL
2	AASTHA BUBBER	16	AMAN JAIN
3	AAYUSHI CHOUDHARY	17	ANISHA JINDAL
4	AAYUSHI SHARMA	18	ANKIT GOYAL
5	ABHIMANYU SINGH RATHORE	19	ANKIT GOYAL
6	ABHISHEK GUPTA	20	ANKIT KUMAR
7	ABHISHEK GUPTA	21	ANMOL GUPTA
8	ADESH GAUTAM	22	ANSHUL KUMAR GARG
9	ADITYA UMESH ACHARYA	23	ANUJ JAIN
10	AIKANSH GAUR	24	APOORVA GUPTA
11	AJEETA SHARMA	25	ARCHIT BOHRA
12	AKANKSHA AGARWAL	26	ARCHIT MATHUR
13	AKBAR ALI KHAN	27	ASHI SINGHAL
14	ALOK RAJ	28	ASHUTOSH GURJAR
		29	ASIM NAGRA

30	AVIRAL AGARWAL
31	AVNEET KAUR
32	AYUSHI GUPTA
33	AYUSHI KHANDELWAL
34	BHAVYA KANTIWAL
35	BHAWESH SINGH
36	BHAWNA MENDIRATTA
37	BHUPENDRA KUMAWAT
38	CHARCHIT SHARMA
39	CHIRAG AGGARWAL
40	CHIRAG THAWANI
41	DEEPAK KUMAR
42	DEEPAK SHARMA
43	DEEPAK SHARMA
44	DEVENDRA JAIN
45	DHARMENDER GURJAR
46	DIVYA KOTWAL
47	DIVYASH SINGH HURA
48	EHAAB AHMAD
49	GAURAV KHANDELWAL
50	HARSH BHARDWAJ
51	HARSHITA JAIN
52	HEENA HARIRAMANI
53	HEENA PORWAL
54	HEMANT AGARWAL
55	HIMANSHU SATIJA
56	HIMANSHU SHARMA
57	ISHA VYAS
58	ISHANYA ASHUTOSH KESHODHAN
59	JAI SINGHAL
60	KAPIL JAIN
61	KARAN GOPAL GAUR
62	KARAN SUTHAR
63	KARISHMA KHANDELWAL
64	KARTIKEYA GARG
65	KASHISH KUMAWAT
66	KESHAV KUMAR SAXENA
67	KESHAV MUNDRA
68	KETAN SONI
69	KHUSHI AGRAWAL
70	KINJAL JAIN
71	KISHOR KUMAR SAINI
72	KRISHNA BHARDWAJ
73	KRIKA PANDEY
74	KUNAL SHARMA
75	LAKSHAY BAJARGAAN
76	MAHENDRA SINGH
77	MANOJ JESWANI

78	MANSI BHALLA
79	MAYANK KHANDELWAL
80	MAYANK TIWARI
81	MEGHA BANSAL
82	MUDIT GOYAL
83	MUKESH OSTWAL
84	MUKUL GARG
85	NAKUL GOYAL
86	NAVEEN CHOUDHARY
87	NEHA CHOUDHARY
88	NIKHIL PALIWAL
89	NIPUN KUMAR JAIN
90	NITESH AGRAWAL
91	NITESH SHARMA
92	NITISHA SAINI
93	PALASH PATIDAR
94	POOJA SAHU
95	PRACHI DUBEY
96	PRACHI YADAV
97	PRAMOD KUMAR
98	PRIYANK JAIN
99	PUNIT AGARWAL
100	PUNIT KUMAR
101	RAGHUVeer SHARMA
102	RAJ KUMAR KHACHAWA
103	RAKESH SONI
104	RAM PRAVESH KR YADAV
105	RISHAV CHETAN
106	RITIKA GUPTA
107	RIYA RITU
108	SAGAR GOYAL
109	SAHARSH ANAND SHARMA
110	SAHIL JINDAL
111	SAKET KUMAR
112	SAKSHEE DHUKIA
113	SAKSHI SAXENA
114	SAURABH KHANDELWAL
115	SHAILY JINDAL
116	SHIVANSHU GUPTA
117	SHREYA GUPTA
118	SHUBHAM BHARGAVA
119	SHUBHAM GUPTA
120	SIDDHARTH RAWAT
121	SONAL NEGI
122	SUCHITA GAUR
123	SUMIT SINGH
124	SUNIL SUMAN
125	TUSHAR KALRA
126	TUSHAR SETIA

127	UPENDRA UPADHYAY	175	SUMIT KUMAR SRIVASTAV
128	URVASHI TAKULI	176	TANMAY DUTT SHARMA
129	UTSAV KASHYAP	177	UDITA GARG
130	VAIBHAV PITLIYA	178	VIJAY GEHLOT
131	VAISHALI JAIN	179	VINEET KUMAR RAGHAV
132	VIKAS MOTIANI	180	VIPUL GARG
133	VINAY PANCHOLI	181	VARTIKA KHANDELWAL
134	YASH BHARDWAJ	182	RIVAK SHAH
135	YASHIKA SINGH	183	DAKSH ADHIKARI
136	YUKTA AGRAWAL	184	AAKANKSHA DIXIT
137	ANCHAL ARORA	185	AJAY SAIN
138	RISHI GARG	186	AJAY SHARMA
139	ABHIJEET YADAV	187	AKANSHA MATHUR
140	ADITYA KAMMA	188	AKSHITA KHATRI
141	AFZAL KHAN	189	AMAN KUMAR GAUTUM
142	AMAN JAIN	190	AMAN MAHNOT
143	ANMOL MATHUR	191	AMRITANSHU SINGH CHAUHAN
144	ASHUTOSH CHOUDHARY	192	ANIKA KOCHER
145	AVINASH JAIN	193	ANJALI JAIN
146	AYUSHI GOYANKA	194	ANJALI KUMARI
147	BABLU SINGH	195	ANKIT NA
148	BHANU PRATAP SINGH	196	ANMOL BABBAR
149	KHANGAROT	197	ARJUN BHATIA
150	CHANDRA PRAKASH	198	ATUL JOSHI
151	DEVANG GANDHI	199	DEEPANSH SONI
152	DEVANSH SHARMA	200	DEEPANSHU SAMDANI
153	DIVYA JAIN	201	DHEERAJ KHANDELWAL
154	ESHAN INDOLIA	202	DIVYANSH SONI
155	HARDIK DADHICH	203	DIXITA JAIN
156	HARSHA JAIN	204	HAROON SHAKIR QURESHI
157	HARSHIT GUPTA	205	HARSH MERTWAL
158	ISHAN KALRA	206	HARSH PANDYA
159	KANIKA AGARWAL	207	HEMANT VIKANI
160	KARTIK ARORA	208	HIMANSHU BARTIYA
161	KRISHAN VEER SINGH	209	JAYESH NAGAR
162	CHAUHAN	210	KALPESH SHARMA
163	MAHEEP MATHUR	211	KARAN RAJ SINGH
164	MANAV CHARAN	212	KRITI JOSHI
165	MANMATH VASISTHA	213	LATIKA ARORA
166	MUSKAN DOSI	214	MALAY GARG
167	NIKITA CHATURVEDI	215	MANINDER SINGH DUA
168	NISHANT JAIN	216	MANSI SHARMA
169	PARAS MAKHIJA	217	MITALI JANGID
170	PAWAN JANGID	218	NEHA ALWANI
171	PIYUSH JAIN	219	NIHAL SONI
172	RITU MANGAL	220	NITIN AGNIHOTRI
173	ROHIT GUPTA	221	PARAG JAIN
174	SHIKHA KUMARI	222	PEEYUSH GOYAL
	SHIVAM PANDEY	223	PRADEEP LAKWAL
	SOMYA RAJPUT		

224	PRADEEP PANDEY
225	PRAKHAR CHATTER
226	PRATEEK SEN
227	PUNEET SAXENA
228	PUNITA TIWARI
229	RAKESH SHARMA
230	RAM MOHAN JAIN
231	RISHABH VYAS
232	RITIKA SOMANI
233	ROHIT SHARMA
234	RUCHIKA JANGID
235	SAKSHI AGRAWAL
236	SAMYAK JAIN
237	SANKALP CHAWLA
238	SHIPRA AGARWAL
239	SHRADHA NA
240	SHREY AGRAWAL
241	SHUBHAM SINGHVI
242	SHUBHANG GUPTA
243	SIDDHARTH SHARMA
244	SIMRAN KHANDELWAL
245	SUMIT MATHUR
246	SUNIL SHARMA
247	TUSHAR KUMAWAT
248	VAIBHAV PARASHAR
249	VAIBHAV SANKHLA
250	VIPENDRA PAL RAJPUT
251	Ayush Gupta
252	PRATEEK SURANA
253	ADITI MATHUR
254	AISHWARYA SONI
255	ANKITA JAIN
256	AKASH BHARDWAJ
257	ASMITA PUROHIT
258	ATUL GOYAL
259	AVIRAL CHAUDHARY
260	AYUSH TAYAL
261	GEETA ARORA
262	INESH KUMAR
263	KUHUK RASTOGI
264	KULDEEP SINGH

265	KUMARI SUKANYA
266	MANOJ SHARMA
267	MANSI BHATI
268	NUPUR GUPTA
269	PRANJAL KAUSHIK
270	PRANJUL GUPTA
271	PRATUSH KUMAR JHA
272	RAHUL DOSI
273	REETI CHOUDHARY
274	SHUBHAM BHARGAVA
275	DEEPANSHU SAIN
276	PURVI MEHTA
277	MAYANK SHARMA
278	NILISHA MITRUKA
279	NIHARIKA SAXENA
280	KARTIKE BANSAL
281	JYOTIRMAY AGRAWAL
282	JACKY N GAMOT
283	PUNIT SHARMA
284	RAHUL SAINI
285	KANAK GARG
286	AMAN SHARMA
287	AISHWARYA SAXENA
288	HARSHIT BHARGAVA
289	ANSHIKA GUPTA
290	VEDANT VASISHTHA
291	SAUMYA RASTOGI
292	RAJ AGARWAL
293	BHUMI SHAH
294	PURU PANERI
295	RIITWICK KRISHNATRI
296	HASSAAN ALVI
297	DEEPANSHU SHARMA
298	AYUSH JAIN
299	AMAN AGWAL
300	PRAKHAR KHANDELWAL
301	SWATI PRIYA
302	ANUJ CHHABRA
303	RISHABH GARG
304	MANISH KUMAR SINGH