



# Sri Indu Institute of Engineering & Technology

Recognized Under 2(f) of UGC Act 1956

Approved by AICTE, New Delhi

Affiliated to JNTUH, Hyderabad.

## COURSE FILE

ON

## OBJECT ORIENTED PROGRAMMING USING C++

Course Code – CS305PC

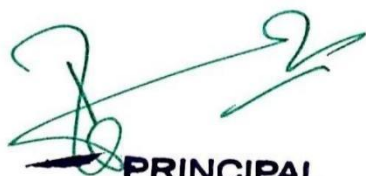
II B.Tech I-SEMESTER

A.Y.:2022-2023

Prepared by

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Assistant Professor

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Sheriguda(V), Ibrahimpatnam(M), R.R.Dist-501 10.

  
PRINCIPAL  
Sri Indu Institute of Engineering & Tech.  
Sheriguda(Vill), Ibrahimpatnam  
R.R. Dist. Telangana-501 510.



## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

<b>Academic Year</b>	2022-2023
<b>Course Title</b>	OBJECT ORIENTED PROGRAMMING USING C++
<b>Course Code</b>	CS305PC
<b>Programme</b>	B.Tech
<b>Year &amp; Semester</b>	II year I-semester
<b>Branch &amp; Section</b>	CSE-A
<b>Regulation</b>	R18
<b>Course Faculty</b>	Mrs. P H SWARNA REKHA, Assistant Professor

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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### INSTITUTE VISION AND MISSION

#### Vision:

To become a premier institute of academic excellence by providing the world class education that transforms individuals into high intellectuals, by evolving them as empathetic and responsible citizens through continuous improvement.

#### Mission:

**IM1:** To offer outcome-based education and enhancement of technical and practical skills.

**IM2:** To continuously assess of teaching-learning process through institute-industry collaboration..

**IM3:** To be a centre of excellence for innovative and emerging fields in technology development with state-of-art facilities to faculty and students fraternity.

**IM4:** To create an enterprising environment to ensure culture, ethics and social responsibility among the stakeholders

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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### DEPARTMENT VISION AND MISSION

#### Vision:

To become a prominent knowledge hub for learners, strive for educational excellence with innovative and industrial techniques so as to meet the global needs.

#### Mission:

- DM1 :** To provide ambience that enhances innovations, problem solving skills, leadership qualities, decision making, team-spirit and ethical responsibilities.
- DM2 :** To impart quality education with professional and personal ethics, so as to meet the challenging technological needs of the industry and society.
- DM3 :** To provide academic infrastructure and develop linkage with the world class organizations to strengthen industry-academia relationships for learners.
- DM4 :** To provide and strengthen new concepts of research in the thrust area of Computer Science and Engineering to reach the needs of Government and Society.

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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### PROGRAM EDUCATIONAL OBJECTIVES

- PEO1:** To develop trained graduates with strong academic and technical skills of modern computer science and engineering.
- PEO2:** To promote trained graduates with leadership qualities and the ability to solve real time problems using current techniques and tools in interdisciplinary environment.
- PEO3:** To motivate the graduates towards lifelong learning through continuing education and professional development.

### PROGRAM SPECIFIC OUTCOMES

- PSO1 : Professional Skills:** To implement computer programs of varying complexity in the areas related to Web Design, Cloud Computing, Network Security and Artificial Intelligence.
- PSO2: Problem-Solving Skills:** To develop quality products using open ended programming environment.

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## PROGRAMME OUTCOMES (POs)

- PO1: Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- PO2: Problem analysis:** Identify, formulate, review research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO3: Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- PO4: Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- PO5: Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.
- PO6: The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- PO7: Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO8: Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9: Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO10: Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- PO11: Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- PO12: Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B.Tech in COMPUTER SCIENCE AND ENGINEERING****II YEAR COURSE STRUCTURE AND SYLLABUS (R18)****Applicable From 2018-19 Admitted Batch****II YEAR I SEMESTER**

S. No.	Course Code	Course Title	L	T	P	Credits
1	CS301ES	Analog and Digital Electronics	3	0	0	3
2	CS302PC	Data Structures	3	1	0	4
3	MA303BS	Computer Oriented Statistical Methods	3	1	0	4
4	CS304PC	Computer Organization and Architecture	3	0	0	3
5	CS305PC	Object Oriented Programming using C++	2	0	0	2
6	CS306ES	Analog and Digital Electronics Lab	0	0	2	1
7	CS307PC	Data Structures Lab	0	0	3	1.5
8	CS308PC	IT Workshop Lab	0	0	3	1.5
9	CS309PC	C++ Programming Lab	0	0	2	1
10	*MC309	Gender Sensitization Lab	0	0	2	0
		<b>Total Credits</b>	<b>15</b>	<b>1</b>	<b>12</b>	<b>21</b>

**II YEAR II SEMESTER**

S. No.	Course Code	Course Title	L	T	P	Credits
1	CS401PC	Discrete Mathematics	3	0	0	3
2	SM402MS	Business Economics & Financial Analysis	3	0	0	3
3	CS403PC	Operating Systems	3	0	0	3
4	CS404PC	Database Management Systems	3	1	0	4
5	CS405PC	Java Programming	3	1	0	4
6	CS406PC	Operating Systems Lab	0	0	3	1.5
7	CS407PC	Database Management Systems Lab	0	0	3	1.5
8	CS408PC	Java Programming Lab	0	0	2	1
9	*MC409	Constitution of India	3	0	0	0
		<b>Total Credits</b>	<b>18</b>	<b>2</b>	<b>8</b>	<b>21</b>

**\*MC - Satisfactory/Unsatisfactory**

## CS305PC: OBJECT ORIENTED PROGRAMMING USING C++

B.TECH II Year I Sem.

L	T	P	C
2	0	0	2

**Prerequisites:** A course on “Programming for Problem Solving using C”.

### Course Objectives:

- Introduces Object Oriented Programming concepts using the C++ language.
- Introduces the principles of data abstraction, inheritance and polymorphism;
- Introduces the principles of virtual functions and polymorphism
- Introduces handling formatted I/O and unformatted I/O
- Introduces exception handling

### Course Outcomes:

- Able to develop programs with reusability
- Develop programs for file handling
- Handle exceptions in programming
- Develop applications for a range of problems using object-oriented programming techniques

### UNIT - I

**Object-Oriented Thinking:** Different paradigms for problem solving, need for OOP paradigm, differences between OOP and Procedure oriented programming, Overview of OOP concepts- Abstraction, Encapsulation, Inheritance and Polymorphism.

**C++ Basics:** Structure of a C++ program, Data types, Declaration of variables, Expressions, Operators, Operator Precedence, Evaluation of expressions, Type conversions, Pointers, Arrays, Pointers and Arrays, Strings, Structures, References. Flow control statement- if, switch, while, for, do, break, continue, goto statements. Functions - Scope of variables, Parameter passing, Default arguments, inline functions, Recursive functions, Pointers to functions. Dynamic memory allocation and de-allocation operators-new and delete, Preprocessor directives.

### UNIT - II

**C++ Classes and Data Abstraction:** Class definition, Class structure, Class objects, Class scope, this pointer, Friends to a class, Static class members, Constant member functions, Constructors and Destructors, Dynamic creation and destruction of objects, Data abstraction, ADT and information hiding.

### UNIT - III

**Inheritance:** Defining a class hierarchy, Different forms of inheritance, Defining the Base and Derived classes, Access to the base class members, Base and Derived class construction, Destructors, Virtual base class.

**Virtual Functions and Polymorphism:** Static and Dynamic binding, virtual functions, Dynamic binding through virtual functions, Virtual function call mechanism, Pure virtual functions, Abstract classes, Implications of polymorphic use of classes, Virtual destructors.

### UNIT - IV

**C++ I/O:** I/O using C functions, Stream classes hierarchy, Stream I/O, File streams and String streams, Overloading operators, Error handling during file operations, Formatted I/O.

### UNIT - V

**Exception Handling:** Benefits of exception handling, Throwing an exception, The try block, Catching an exception, Exception objects, Exception specifications, Stack unwinding, Rethrowing an exception, Catching all exceptions.



**TEXT BOOKS:**

1. The Complete Reference C++, 4<sup>th</sup> Edition, Herbert Schildt, Tata McGraw Hill I.
2. Problem solving with C++: The Object of Programming, 4<sup>th</sup> Edition, Walter Savitch, Pearson Education.

**REFERENCES:**

1. The C++ Programming Language, 3<sup>rd</sup> Edition, B. Stroutstrup, Pearson Education.
2. OOP in C++, 3<sup>rd</sup> Edition, T. Gaddis, J. Walters and G. Muganda, Wiley Dream Tech Press.
3. Object Oriented Programming in C++, 3<sup>rd</sup> Edition, R. Lafore, Galigotia Publications Pvt Ltd.



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Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510

Website: <https://siiet.ac.in/>

## Department of Computer Science and Engineering Course Outcomes

### Course: Object Oriented Programming using C++ (CS305PC)

#### Class: II – I SEM – A - Section

After completing this course the student will be able to:

- C215.1 Develop application for a range of problem using object oriented programming concepts.(Synthesis)
- C215.2 Construct programs on various methodology using class and object .(Synthesis)
- C215.3 Illustrate the different forms of inheritance.(Comprehension)
- C215.4 Construct and develop programs with reusability using polymorphism and virtual function(Analysis)
- C215.5 Develop programs for file handling.(Synthesis)
- C215.6 Identify and can handle exceptions in programming.(Knowledge)

#### Mapping of course outcomes with program outcomes:

	High -3			Medium -2				Low-1						
PO/PSO/ CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C215.1	3	1	2	-	-	-	-	-	-	-	-	-	-	-
C215.2	2	-	3	-	-	-	-	-	-	-	-	1	-	-
C215.3	2	-	3	-	-	-	-	-	-	-	-	1	-	-
C215.4	3	1	2	-	-	-	-	-	-	-	-	-	-	2
C215.5	2	-	3	-	-	-	-	-	-	-	-	-	1	-
C215.6	1	2	3	-	-	-	-	-	-	-	-	-	-	-
AVG	2.1	1.3	2.6	-	-	-	-	-	-	-	-	1	-	2



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## CO-PO Mapping Justification

**C215.1** Develop application for a range of problem using object oriented programming concepts.(Synthesis)

	<b>Justification</b>
<b>PO1</b>	Students get the knowledge on the oops concepts.
<b>PO2</b>	Able to analyze the oops concepts.
<b>PO3</b>	Able to design and develop programs using oops concepts in c++.

**C215.2** Construct programs on various methodology using class and object .(Synthesis)

	<b>Justification</b>
<b>PO1</b>	Students get the knowledge on basic concept of c++.
<b>PO3</b>	Students will able to develop programs using c++.
<b>PO12</b>	Recognize the need for life long learning of c++.

**C215.3** Illustrate the different forms of inheritance.(Comprehension)

	<b>Justification</b>
<b>PO1</b>	Knowledge is gained by using different forms of inheritance.
<b>PO3</b>	Developing the solutions by taking programming concepts.
<b>PO12</b>	Recognize the need for life long learning of c++ so as to include in the broadcast context of technological changes .

**C215.4** Construct and develop programs with reusability using polymorphism and virtual function(Analysis)

	<b>Justification</b>
<b>PO1</b>	Apply the knowledge of polymorphism and virtual function concepts.
<b>PO2</b>	Analyze the concepts of polymorphism and virtual function concepts.
<b>PO3</b>	Ability to design programs using polymorphism and virtual function.
<b>PSO2</b>	Ability to apply all c++ concepts to enhance the problem solving skills.

**C215.5** Develop programs for file handling.(Synthesis)

	<b>Justification</b>
<b>PO1</b>	Gains knowledge on files and input streams.
<b>PO3</b>	Ability to develop programs on files
<b>PSO1</b>	Enables to solve the problems associated with files.

**C215.6** Identify and can handle exceptions in programming.(Knowledge)

	<b>Justification</b>
<b>PO1</b>	Knowledge is gained by using exception handling programming.
<b>PO2</b>	Student can analyze the exceptions and rethrow an exception.
<b>PO3</b>	Student can handle exceptions by using exception handling.

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**

**ACADEMIC CALENDAR 2022-23**

**B. Tech./B.Pharm. II YEAR I & II SEMESTERS**

**I SEM**

S. No	Description	Duration	
		From	To
1	Commencement of I Semester classwork	<b>28.11.2022</b>	
2	1 <sup>st</sup> Spell of Instructions	28.11.2022	21.01.2023 (8 Weeks)
3	First Mid Term Examinations	23.01.2023	30.01.2023 (1 Week)
4	Submission of First Mid Term Exam Marks to the University on or before	04.02.2023	
5	2 <sup>nd</sup> Spell of Instructions	31.01.2023	29.03.2023 (8 Weeks)
6	Second Mid Term Examinations	31.03.2023	08.04.2023 (1 Week)
7	Preparation Holidays and Practical Examinations	10.04.2023	15.04.2023 (1 Week)
8	Submission of Second Mid Term Exam Marks to the University on or before	15.04.2023	
9	End Semester Examinations	17.04.2023	29.04.2023 (2 Weeks)

Note: No. of Working / Instructional Days: 93

**II SEM**

S. No	Description	Duration	
		From	To
1	Commencement of II Semester classwork	<b>01.05.2023</b>	
2	1 <sup>st</sup> Spell of Instructions (including Summer Vacation)	01.05.2023	08.07.2023 (10 Weeks)
3	<b>Summer Vacation</b>	15.05.2023	27.05.2023 (2 Weeks)
4	First Mid Term Examinations	10.07.2023	15.07.2023 (1 Week)
5	Submission of First Mid Term Exam Marks to the University on or before	22.07.2023	
6	2 <sup>nd</sup> Spell of Instructions	18.07.2023	11.09.2023 (8 Weeks)
7	Second Mid Term Examinations	12.09.2023	16.09.2023 (1 Week)
8	Preparation Holidays and Practical Examinations	19.09.2023	23.09.2023 (1 Week)
9	Submission of Second Mid Term Exam Marks to the University on or before	23.09.2023	
10	End Semester Examinations	25.09.2023	07.10.2023 (2 Weeks)

Note: No. of Working / Instructional Days: 92

  
 REGISTRAR





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**TIME TABLE FOR A.Y 2022-23**

Class: II-B. Tech CSE -A      Semester: I      LH. NO: A-301      W.E.F:28-11-2022

Period/ Day	1	2	3	4	1:00- 1:30	5	6	7
	9:40-10:30	10:30-11:20	11:20-12:10	12:10-1:00		1:30-2:20	2:20-3:10	3:10-4:00
Monday	COSM	ITWS LAB(BATCH-I)/ A&DE LAB(BATCH-II)			L U N C H	A&DE	DS	C++
Tuesday	COSM	C++	COA	DS		A&DE	CO-C/SS/DAA	
Wednesday	C++	COSM	INT	COA		DS LAB(BATCH-I)/ C++ LAB(BATCH-II)		
Thursday	DS	GS LAB		COSM/DS(T)		C++	A&DE	SPORTS
Friday	COA	DS LAB(BATCH-II)/ C++ LAB(BATCH-I)				A&DE	LIB	DS/COSM(T)
Saturday	C++	DS	COUN	COA		ITWS LAB(BATCH-II)/ A&DE LAB(BATCH-I)		

(T) – Tutorial (concern faculty)

Subject Code	Subject Name	Name of the Faculty	Subject Code	Subject Name	Name of the Faculty
CS301ES	Analog and Digital Electronics	Mrs. S.Alekhyia	CS309PC	C++ Programming Lab	Mrs P H Swarna Rekha/ Mrs.P.Souwjanya/ Mrs.G.Swapna
CS302PC	Data Structures	Mrs. D.Rajeshwari	MC309	Gender Sensitization Lab	Mrs S Swapna
MA303BS	Computer Oriented Statistical Methods	Mrs. B.Ramadevi		CO-C/SS/DAA	Mrs. D.Rajeshwari
CS304PC	Computer Organization and Architecture	Dr. Sasikumar D	Sports	Sports	Mr K Veera Kishore
CS305PC	Object Oriented Programming Using C++	Mrs P H Swarna Rekha	Internet	Internet	Mrs. Ch Sai Vijaya
CS306ES	Analog and Digital Electronics Lab	Mrs. S.Alekhyia	LIB	Library	Mrs P H Swarna Rekha
CS307PC	Data Structures Lab	Mrs. D.Rajeshwari/ Mrs D.Uma/ Mrs.A.Sudha	COUN	Counselling	Mrs.R.Sravanthi
CS308PC	IT Workshop Lab	Mrs T Ramya Priya/ Mrs.Ch.Sai Vijaya/ Mrs. Jakkala Priyanka			
Class In-Charge : Mrs. D.Rajeshwari		Mentor 1 : Mrs. D.Rajeshwari		Mentor 2: Mrs P H Swarna Rekha	

Class In-Charge

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## LESSON PLAN

Course Title	OBJECT ORIENTED PROGRAMMING USING C++
Course Code	CS305PC
Programme	B.Tech
Year & Semester	II-year I-semester
Regulation	R18
Course Faculty	Mrs.P H Swarna Rekha, Assistant Professor , CSE

1	I	Different paradigms for problem solving	1	Black Board	T1
2		need for OOP paradigm	1	Black Board	T1
3		differences between OOP and Procedure oriented programming	1	Black Board	T1
4		Overview of OOP concepts	1	Black Board	T1
5		Abstraction	1	Black Board	T1
6		Encapsulation	1	Black Board	T1,R1
7		Inheritance and Polymorphism	1	Black Board	T1
8		Structure of a C++ program	1	Black Board	T1
9		Data types, Declaration of variables	1	Black Board	T1
10		Expressions, Operators	1	Black Board	T1
11		Operator Precedence, Evaluation of expressions	1	Black Board	T1
12		Type conversions, Pointers	1	Black Board	T1
13		Arrays, Pointers and Arrays	1	Black Board	T1
14		Strings, Structures	1	Black Board	T1,R2
15		References	1	Black Board	T1
16		Flow control statement- if, switch, while, for, do, break, continue, goto statements.	1	Black Board	T1
17		Functions - Scope of variables	1	Black Board	T1

18		Parameter Passing	1	Black Board	T1
19		Default argument	1	Black Board	T1
20		Inline Functions	1	Black Board	T1
21		Recursive functions	1	Black Board	T1,R2
22		Pointers to functions	1	Black Board	T1
23		Dynamic memory allocation and	1	Black Board	T1
24		De-allocation operators-new and delete	1	Black Board	T1
25		Preprocessor directives	1	Black Board	T1
26	II	Class definition	1	Black Board	T1
27		Class structure	1	Black Board	T1
28		Class objects	1	Black Board	T1,R2
29		Class scope	1	Black Board	T1
30		This pointer	1	Black Board	T1
31		Friends to a class	1	Black Board	T1
32		Static class members	1	Black Board	T1
33		Constant member functions	1	Black Board	T1
34		Constructors and Destructors	1	Black Board	T1
35		Dynamic creation and destruction of objects	1	Black Board	T1,R3
36		Data abstraction	1	Black Board	T1
37		ADT and information hiding	1	Black Board	T1
38		III	Defining a class hierarchy	1	Black Board
39	Different forms of inheritance		1	Black Board	T1
40	Defining the base and Derived classes		1	Black Board	T1,R1
41	Access to the base class members		1	Black Board	T1
42	Base and derived class construction		1	Black Board	T1
43	Destructors		1	Black Board	T1

44	III	Virtual base class	1	Black Board	T1
45		Virtual Functions and Polymorphism	1	Black Board	T1
46		Static and Dynamic binding	1	Black Board	T1
47		Virtual functions	1	Black Board	T1
48	IV	Dynamic binding through virtual functions	1	Black Board	T1
49		Virtual function call mechanism	1	Black Board	T1
50		Pure virtual functions	1	Black Board	T1
51		Abstract Classes	1	Black Board	T1
52		Implications of polymorphic use of classes	1	Black Board	T1
53		Virtual Destructors	1	Black Board	T1,R1
54		Stream classes hierarchy	1	Black Board	T1
55		Stream I/O	1	Black Board	T1
56		File streams and String streams	1	Black Board	T1
57		Overloading Operators	1	Black Board	T1
58		Error handling during file operations	1	Black Board	T1
59		Formatted I/O	1	Black Board	T1
60	V	Benefits of exception handling	1	Black Board	T1,R2
61		Throwing an exception	1	Black Board	T1
62		The try block, Catching an exception	1	Black Board	T1
63		Exception objects	1	Black Board	T1
64		Exception specifications, Stack unwinding	1	Black Board	T1
65		Rethrowing an exception		Black Board	
66		Catching all exceptions	1	Black Board	T1

**TEXT BOOKS:**

1. The Complete Reference C++, 4<sup>th</sup> Edition, Herbert Schildt, Tata McGraw Hill I.
2. Problem solving with C++: The Object of Programming, 4<sup>th</sup> Edition, Walter Savitch, Pearson Education.

**REFERENCES:**

1. The C++ Programming Language, 3<sup>rd</sup> Edition, B. Stroustrup, Pearson Education.
2. OOP in C++, 3<sup>rd</sup> Edition, T. Gaddis, J. Walters and G. Muganda, Wiley Dream Tech Press.
3. Object Oriented Programming in C++, 3<sup>rd</sup> Edition, R. Lafore, Galgotia Publications Pvt Ltd.





# **SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY**

Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956

Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad

Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510

Website: <https://siiet.ac.in/>

---

## **WEB REFERENCE**

<b>S.No</b>	<b>Web Link</b>
1	<a href="https://www.geeksforgeeks.org/object-oriented-programming-in-cpp/">https://www.geeksforgeeks.org/object-oriented-programming-in-cpp/</a>
2	<a href="https://www.tutorialspoint.com/cplusplus/cpp_exceptions_handling.htm">https://www.tutorialspoint.com/cplusplus/cpp_exceptions_handling.htm</a>
3	<a href="https://www.javatpoint.com/virtual-functions-and-runtime-polymorphism">https://www.javatpoint.com/virtual-functions-and-runtime-polymorphism</a>



## LECTURE NOTES

**UNIT-1 to 5**

**Link:**

[https://drive.google.com/drive/folders/1pdK6bmrNBuRPX\\_ojZCoQ11HBg\\_oSlb4X?usp=drive\\_link](https://drive.google.com/drive/folders/1pdK6bmrNBuRPX_ojZCoQ11HBg_oSlb4X?usp=drive_link)

### List of Power point presentations

**Unit-1 Link :**

[https://drive.google.com/drive/folders/1qTOHDwzHBRmCvNa9BwcOTPVj5\\_c1\\_Jli?usp=drive\\_link](https://drive.google.com/drive/folders/1qTOHDwzHBRmCvNa9BwcOTPVj5_c1_Jli?usp=drive_link)

**Unit-2 Link :**

[https://docs.google.com/presentation/d/15\\_-iX78g9IM2VX2MwxAcDO--brHNNL2/edit?usp=drive\\_link&ouid=117169055385093020293&rtpof=true&sd=true](https://docs.google.com/presentation/d/15_-iX78g9IM2VX2MwxAcDO--brHNNL2/edit?usp=drive_link&ouid=117169055385093020293&rtpof=true&sd=true)

**Unit-3 Link :**

[https://drive.google.com/drive/folders/1ArEU5\\_-7\\_LX\\_q-3iWx30uS2hZYGp7SHK?usp=sharing](https://drive.google.com/drive/folders/1ArEU5_-7_LX_q-3iWx30uS2hZYGp7SHK?usp=sharing)

**Unit-4 Link:**

<https://drive.google.com/drive/folders/1N8I2y4L-MUNHyktGT4bCclkmVenv1MS3?usp=sharing>

**Unit-5 Link:**

[https://drive.google.com/drive/folders/1z0OONlpizA\\_dZJRPbtX3kSZ7L42KMW7?usp=sharing](https://drive.google.com/drive/folders/1z0OONlpizA_dZJRPbtX3kSZ7L42KMW7?usp=sharing)

Time: 3 Hours

Max. Marks: 75

- Note: i) Question paper consists of Part A, Part B.  
 ii) Part A is compulsory, which carries 25 marks. In Part A, Answer all questions.  
 iii) In Part B, Answer any one question from each unit. Each question carries 10 marks and may have a, b as sub questions.

**PART – A****(25 Marks)**

- 1.a) Define arrays. Give examples. [2]
- b) Write about Class structure. [2]
- c) Define class hierarchy. [2]
- d) Define I/O using C functions. [2]
- e) Write about Catching. [2]
- f) Give the features of C that are not in C++. [3]
- g) What is the use of scope resolution operator in C++ ? [3]
- h) What are the virtual functions. [3]
- i) Difference between function overloading and functions templates? [3]
- j) Discuss about try block. [3]

**PART – B****(50 Marks)**

- 2.a) What is polymorphism? Explain with the help of an example.

[10]

**OR**

- 3.a) Write a program to find whether the given number is a palindrome or not.
- b) Explain about the Type conversion with an example.

[5+5]

- 4.a) How can we create a class and an object ? Explain with an example.
- b) Explain about class abstraction.

[5+5]

**OR**

- 5.a) In which order the constructors and destructors are executed? Explain with an example.
- b) Discuss about Static class members.

[5+5]

- 6.a) How virtual functions can be used to implement runtime polymorphism? Describe.

b) Differentiate between static and dynamic binding with an example. [5+5]

**OR**

7.a) Describe the mechanism of creating virtual functions in C++ with an example.  
b) How to create a virtual destructor? What is the necessity of making it virtual? [5+5]

8.a) Write a program to implement the operator loading concept by using unary operator. [10]

**OR**

9.a) Discuss briefly about Error handling during file operation.  
b) Describe about Formatted I/O. [5+5]

10.a) Write a C++ program that illustrate exception handling with the help of keywords: Try, throws and catch [10]

**OR**

11.a) Write a C++ program that catches any math exception.  
b) Discuss about Exception specifications. [5+5]

Code No: 153BK

R18

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech II Year I Semester Examinations, March - 2021

OBJECT ORIENTED PROGRAMMING USING C++

(Common to CSE, IT)

Time: 3 Hours

Max. Marks: 75

Answer any five questions  
All questions carry equal marks

---

- 1.a) Explain briefly different paradigms for problem solving with illustrations.
- b) Can you achieve polymorphism without inheritance? Justify your answer. [7+8]
  
- 2.a) Write a recursive function to sort an array of integers into ascending order using the following ideas: place the smallest element in the first position, then sort the rest of the array by a recursive call.
- b) Does C++ automatically check array indexes to see whether they are in bounds? Justify your answer.
- c) Discuss pointers to functions. [5+5+5]
  
- 3.a) With an example explain constant Member function.
- b) Explain the usage of pointer.
- c) Describe friends to a class. [5+5+5]
  
- 4.a) Write a program to illustrate dynamic creation of objects.
- b) Explain constructor overloading concept with an example. [8+7]
  
- 5.a) Write a program to implement multilevel inheritance.
- b) What is virtual base class ? Why is it necessary? [7+8]
  
- 6.a) Explain the role of abstract classes in polymorphism.
- b) What is meant by pure virtual function ? How is that different from a virtual function [8+7]
  
- 7.a) Discuss the advantages of streams and describe the Stream class hierarchy.
- b) Explain error handling in File I/O. [8+7]
  
- 8.a) What are the benefits of exception handling ?
- b) How to create a user defined exception in C++ ? Explain with a suitable program. [8+7]

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# Sri Indu Institute of Engineering & Technology

Sheriguda (V), Ibrahimpatnam (M), R.R.Dist-501 510

I- Mid Examinations, January -2023S

Set - I

Year& Branch: II CSE

(A,B,C)

Date:24-01-2023(AN)

Subject: CS305PC:Object Oriented Programming using C++

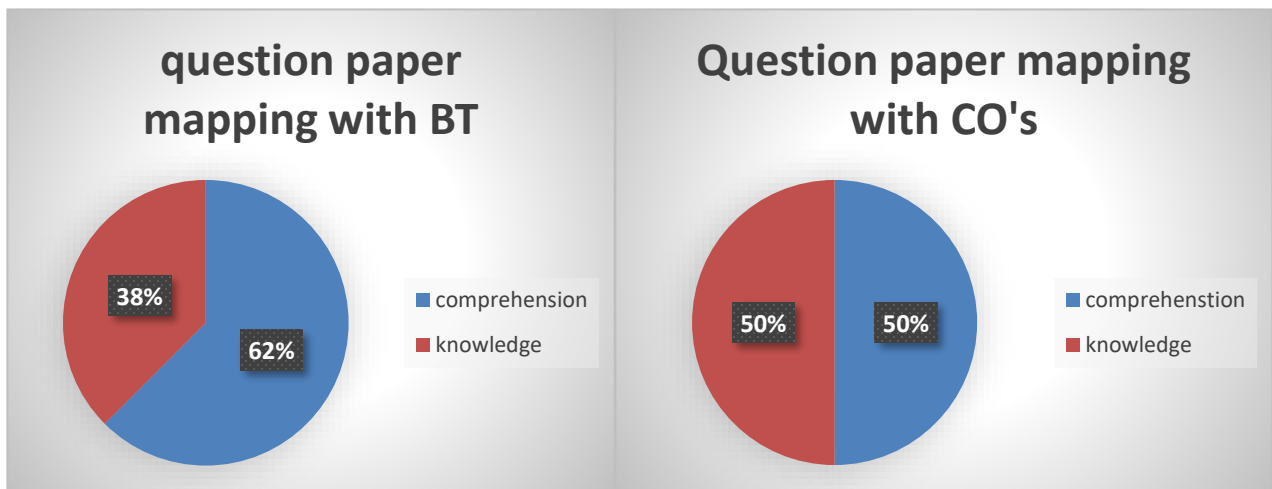
Marks: 10

Time: 60 min

Answer any **TWO** Questions. All Question Carry Equal Marks  
marks

2\*5=10

- 1.Describe about oops concept with class and object program?(5M ) (C215.1) (Knowledge)
2. Explain about constructor and destructor with programs? (5M) (C215.1) (Comprehension)
- 3 a) Explain this pointer and write a program? (3M) (C215.2) (Comprehension)  
b) Explain data abstraction with program? (2M) (C215.2) (Comprehension)
- 4 a) Explain about structure of c++ program with an example program? (2M) (C215.2)  
(Comprehension)  
b) Write short notes on friend function and explain with program? (3M) (C215.2) (Knowledge)



# Sri Indu Institute of Engineering & Technology

Sheriguda (V), Ibrahimpatnam (M), R.R.Dist-501 510

I- Mid Examinations, January-2023

Set - II

Year& Branch: II CSE(A,B,C)

Date:24-01-2023(AN)

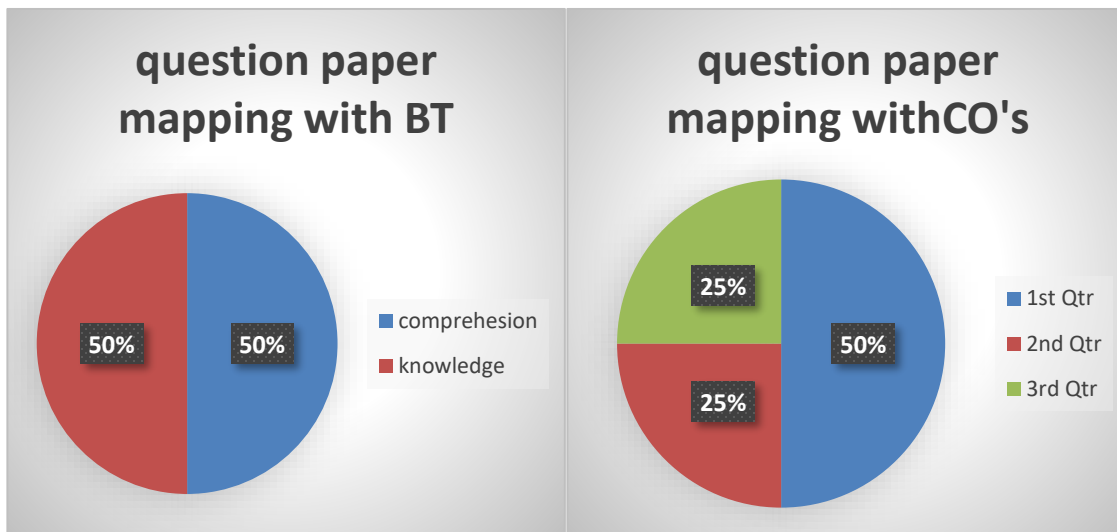
Subject: CS305PC: Object Oriented Programming using C++Marks: 10 Time: 60 min

Answer any **TWO** Questions. All Question Carry Equal Marks

2\*5=10

marks

- 1 a) Explain about operator overloading in C++ with examples? (3M) (C215.1) (Comprehension)  
b) Explain about Type conversion C++ with Examples? (2M) (C215.1) (Comprehension)
2. a) Explain types of function definition in C++ with example program?(3M) (C215.1) (Comprehension)  
b) Write short notes on dynamic memory allocation with operator and with example program? (2M) (C215.1) (Knowledge)
3. Write short notes on friend function and explain with program? And explain different case in friend function? (5M) (C215.2) (Knowledge)
- 4 Explain in detail about constructor and multiple constructor in a program with example program? (5M) (C215.3) (Comprehension)



# Sri Indu Institute of Engineering & Technology

Sheriguda (V), Ibrahimpatnam (M), R.R.Dist-501 510

Department of Computer Science and Engineering

B.Tech, II Year, I Mid Examinations, JANUARY-2023

Object Oriented Programming using C++

Objective Exam

DATE:24-1-2023(AN)

Name: \_\_\_\_\_

Roll No: \_\_\_\_\_

**Answer all questions ,All Questions carry Equal marks.**

**Time: 20mins**

**Marks:10\*1/2=5**

## **I Choose the correct Answer:**

1. Wrapping data and its related functionality into a single entity is known as \_\_\_\_ [   ]
- a) Abstraction                      c) Polymorphism  
b) Encapsulation                  d) Modularity

2. How access specifiers in Class helps in Abstraction? [   ]
- a) They does not helps in any way  
b) They allows us to show only required things to outer world  
c) They help in keeping things together  
d) Abstraction concept is not used in classes

3. What is the output of below program? [   ]

```
int main()
{
  if(0)
  {
    cout<<"Hi";
  }
  else
  {
    cout<<"Bye";
  }
  return 0;
}
```

- (a) Hi                      (b) Bye                      (c) HiBye                      (d) Compilation Error

4. What should be the output of below program? [   ]

```
int main()
{
  int a=10; cout<<a++;
  return 0;
}
```

- (a) 11                      (b) 1                      (c) ERROR                      (d) 0

5. How many Access specifier are there in C++? [   ]

- (a) 1                      (b) 2                      (c) 3                      (d) 4

6. Which of the following is the least safe type casting in C++? [   ]

- (a) static\_cast
- (b) const\_cast
- (c) reinterpret\_cast
- (d) dynamic\_cast

7. Which one of these is not a keyword? [   ]  
 (a) do    (b) sizeof()    (c) goto    (d) sqrt()

8. What is the use of mutable keyword? [   ]  
 (a) It makes variable constant  
 (b) There is no such keyword in C++  
 (c) It allows a class data member to be modified even though it is the data member of a const object  
 (d) None of these

9. Inline functions may not work \_\_\_\_\_. [   ]  
 (a). If function contain static variables.  
 (b). If function contain global and register variables.  
 (c). If function returning value consists looping construct(i.e. for, while).  
 (d). If inline functions are recursive.  
 (e). If function contains const value.

a) Only a,d,e                      b. Only b,c,e    c. Only a,c,d    d. All of these

10. Which of the following statements is correct about the friend function in C++ programming language? [   ]  
 (a) A friend function is able to access private members of a class  
 (b) A friend function can access the private members of a class  
 (c) A friend function is able to access the public members of a class  
 (d) All of the above

**II Fill in the blanks:**

**MARKS:10\*1/2=5 M**

- 11. ----- operator cannot be overloaded
- 12. -----size of void data type in C++ in bytes
- 13. Can we create array of reference-----
- 14. Can we declare structure inside structure-----?
- 15. -----operator is used to release the dynamically allocated memory in C++?
- 16. ----- function of a class is called automatically when any object is created of that class
- 17. Default value of static variable is\_\_\_\_\_.
- 18. By default, members of the class are \_\_\_\_\_ in nature.
- 19. A friend function does not have 'this' pointer associated with it. -----
- 20. Assigning one or more function body to the same name is called \_\_\_\_\_

# Sri Indu Institute of Engineering & Technology

Sheriguda (V), Ibrahimpatnam (M), R.R.Dist-501 510  
Department of Computer Science and Engineering  
B.Tech, II Year, I Mid Examinations, JANUARY-2023  
Object Oriented Programming using C++

---

Subjective key :

[https://drive.google.com/drive/folders/14fiTcvC-OEUIPSWDkyhHy2Lj7HFKiK8h?usp=drive link](https://drive.google.com/drive/folders/14fiTcvC-OEUIPSWDkyhHy2Lj7HFKiK8h?usp=drive_link)

## I .Choose the correct answers key

- 1) b
- 2) c
- 3) b
- 4) a
- 5) c
- 6) c
- 7) d
- 8) c
- 9) a
- 10) b

## II. Fill in the blanks

- 11) ::
- 12) 1
- 13) no
- 14) yes
- 15) delete
- 16) constructor
- 17) 0
- 18) private
- 19) true
- 20) function overloading



# Sri Indu Institute of Engineering & Technology

Sheriguda (V), Ibrahimpatnam (M), R.R.Dist-501 510

Set - I

II B.Tech I SEM, II - Mid Examinations, MAR-2023

Year & Branch: II - B. Tech (CSE A,B,C)

Date: 04-05-2023(AN)\_\_\_

Subject: Object Oriented Programming using C++

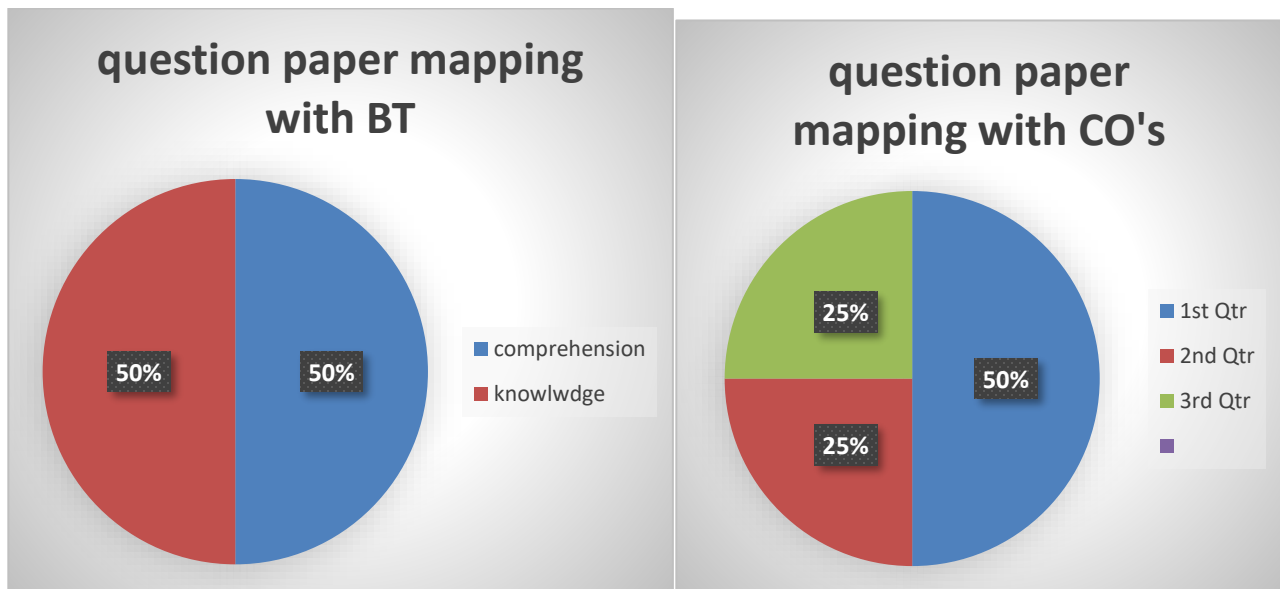
Max. Marks: 10

Time:

Answer any **TWO** Questions. Each Question Carry **FIVE** Marks

**5\* 2 = 10 marks**

1. Explain virtual function with program? And differentiate out difference between static and dynamic binding  
(C215.3)(Comprehension)
2. Explain in detail about Stream class hierarchy with setf program? (5M)(C215.4)  
(Comprehension)
3. Describe about error handling during file operations? And write a program for Rethrowing an Exception  
(5M) (C215.6) (Knowledge)
4. Define Exception handling, Exception objects, and write a program for catching all exception?  
(5M)(C215.6) (Knowledge)



# Sri Indu Institute of Engineering & Technology

Sheriguda (V), Ibrahimpatnam (M), R.R.Dist-501 510

Set - II

II B.Tech I SEM, II - Mid Examinations, MAY-2023

Year & Branch: II - B. Tech (CSE A,B,C)

Date: 04-05-2023(AN)\_

Subject: Object Oriented Programming using C++

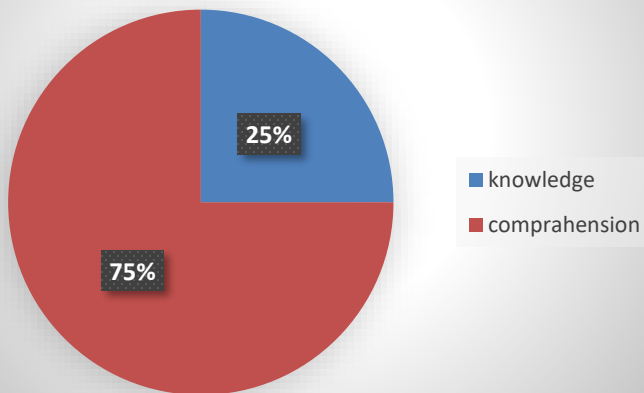
Max. Marks: 10 Time:

Answer any **TWO** Questions. Each Question Carry **FIVE** Marks

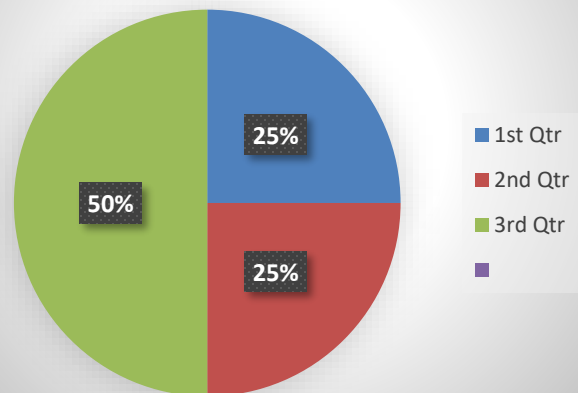
**5\* 2 = 10 marks**

- 1 Explain the need for pure virtual function, explain with program? (5M) (C215.4)  
(Comprehension)
2. Explain in detail about File stream class hierarchy with program? (5M) (C215.5)  
(Comprehension)
3. Describe about error handling during file operations? And write a program for Multiple catch Exception? (5M) (C215.6) (Knowledge)
- 4 .Define Exception handling, Exception objects, and write a program for catching all exception? (5M) (C215.6) (Comprehension)

Question paper mapping  
with BT



Question paper mapping  
with CO's



# Sri Indu Institute of Engineering & Technology

Sheriguda (V), Ibrahimpatnam (M), R.R.Dist-501 510  
**Department of Computer Science and Engineering**  
**B.Tech, II Year, I Mid Examinations, MAY-2023**  
**Object Oriented Programming using C++**

Objective Exam

Name: \_\_\_\_\_

DATE: 04-05-2023(AN)

Roll No: \_\_\_\_\_

---

**Answer All Questions. All Questions Carry Equal Marks. Time: 20 Min. Marks: 10.**

## I. Choose the correct alternative:

1. Which feature in OOP is used to allocate additional functions to a predefined operator in any language? [     ]
  - a) Function Overloading
  - b) Function Overriding
  - c) Operator Overloading
  - d) Operator Overriding
2. \_\_\_\_\_ underlines the feature of Polymorphism in a class [     ].
  - a) Virtual Function
  - b) Inline function
  - c) Enclosing class
  - d) Nested class
3. Instance of which type of class can't be created? [     ]
  - a) Parent class
  - b) Abstract class
  - c) Anonymous class
  - d) Nested class.
4. If a function is declared virtual in its base class, you can still access it directly using the \_\_\_\_\_ [     ]
  - a. Virtual Keyword
  - b. scope resolution Operator
  - c. Indirection Operator
  - d. Address Operator
5. Catch blocks must \_\_\_\_\_ [     ]
  - a. Appear in every object-oriented program
  - b. Appear within try blocks
  - c. Appear immediately after throw statements
  - d. Appear immediately after try block
6. Which stream class is to only write on files ? [     ]
  - a. Ofstream            c. fstream
  - b. Iostream            d. iostream

7. Which of these is the correct statement about eof() ? [ ]

- a. Returns true if a file open for reading has reached the next character.
- b. Returns true if a file open for reading has reached the next word.
- c. Returns true if a file open for reading has reached the end.
- d. Returns true if a file open for reading has reached the middle.

D

8. Which operator is used to insert the data into file? [ ]

- a. >>
- b. <<
- c. <
- d. none of the above

9. If we have object from ofstream class, then default mode of opening the file is \_\_\_\_\_ [ ]

- a. ios::in
- b. ios::out|ios::trunc
- c. ios::in|ios::trunc
- d. ios::out

10. How many objects are used for input and output to a string?

- a. 1
- b. 2
- c. 3
- d. 4

**Fill in the blanks**

11. overloaded operator for object cout-----

12. a pure virtual function is-----

13. The principle of abstraction-----

14. What is an exception in C++ program-----

15. ----- is used to throw an exception

16. Throwing an unhandled exception causes standard library function----- to be invoked

17. ios::trunc is used for-----

18. what is the header file for file handling in C++-----

19. what is return type of "is\_open()" function-----

20. which function is used to read a single character from a file-----

# Sri Indu Institute of Engineering & Technology

Sheriguda (V), Ibrahimpatnam (M), R.R.Dist-501 510  
B.TECH. II YEAR I SEM., Mid-II Term Examinations, Mar- 2023  
Common for II B.Tech CSE(A,B,C)  
**Object Oriented Programming Using C++**

---

## Subjective key:

<https://drive.google.com/drive/folders/1FxD9pK4RpgXZOIuyfftJhwNH6xrVpjhS?usp=sharing>

## Choose the correct answers key

1. c
2. a
3. b
4. b
5. c
6. a
7. c
8. b
9. c
10. b

## Fill in the blanks

11. <<
12. A function with no implementation in the base class
13. Hidden the complex implementation details and shows only the necessary features.
14. An unexpected event or error that occurs during program execution
15. Throw
16. Terminate
17. Truncating the file, i.e., erasing the content if the file already exists.
18. <fstream>
19. Bool
20. get()



# **SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY**

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(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)

Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510

Website: <https://siiet.ac.in/>

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## **Assignment Questions-I**

**(Assignment Questions are mapped with CO's, BT)**

- 1.Explain the difference between oops and pop. (Comprehension)(C215.1)
- 2.Write in detail about oops concept. (Synthesis) (C215.1)
- 3.Define. a. type conversion in c++.  
b. write a short notes on inline functions. (Knowledge)(C215.2)
- 4.Explain a. about memory allocation and deallocation using new and delete concepts.  
b. write a short notes on scope resolution operator. (Comprehension)(C215.2)



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Website: <https://siiet.ac.in/>

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## Assignment Questions-II

**(Assignment Questions are mapped with CO's, BT)**

1. Write about a. virtual base class    b. virtual function    c. pure virtual function and abstract class.  
(Knowledge)(C215.3)
2. Describe about file streams and string streams. (Knowledge)(C215.4)
3. Explain in detail about throwing an exception, tryblock ,catching all exceptions.  
(Comprehension)(C215.4)
4. Write about exception specification, stack unwinding. (Knowledge)(C215.5)
5. Explain about multiple catch exceptions. (Comprehension)(C215.6)





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Website: <https://siiet.ac.in/>

## Result Analysis:

Course Title	Object oriented programming using c++
Course Code	CS305PC
Programme	B.Tech
Year & Semester	II year I-semester, A sec
Regulation	R18
Course Faculty	Mrs.P H SWARNA REKHA, Assistant Professor , CSE

## Slow learners:

S.No	Roll.No	No Of Backlogs	Internal-I Status	Internal-IIStatus
1	21X31A0507	2	17	18
2	21X31A0510	3	16	14
3	21X31A0512	3	14	15
4	21X31A0516	2	18	23
5	21X31A0522	2	23	19
6	21X31A0528	2	18	14
7	21X31A0530	1	19	23
8	21X31A0539	2	14	21
9	21X31A0544	2	14	14
10	21X31A0546	1	16	15
11	21X31A0548	1	20	23
12	21X31A0549	1	17	18
13	21X31A0552	3	18	20
14	21X31A0561	3	19	23

**Advanced learners:**

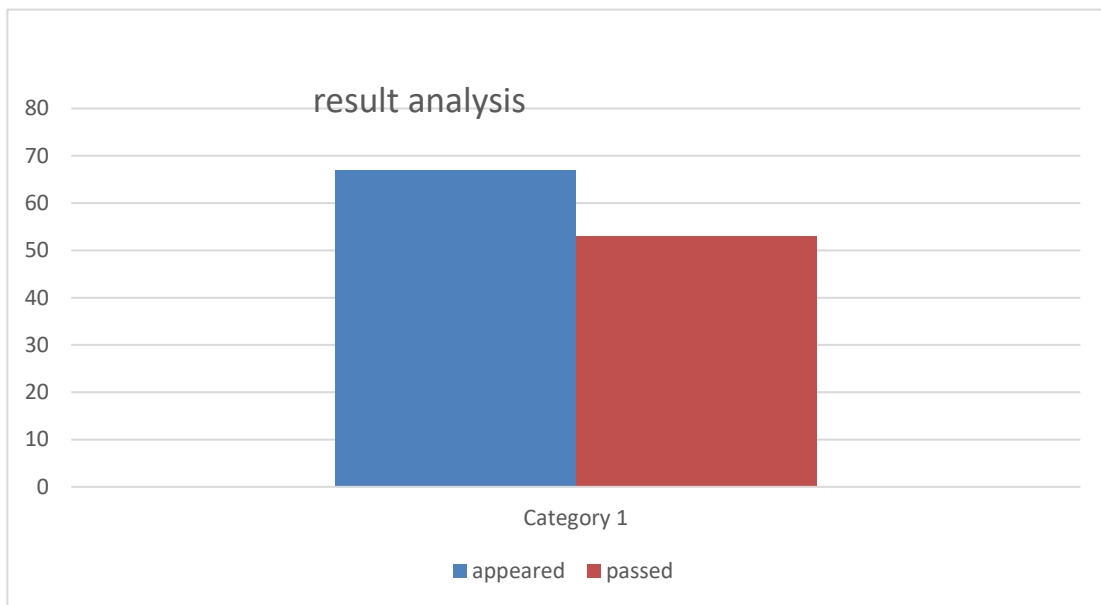
<b>S No</b>	<b>Roll No</b>	<b>GATE MATERIAL</b>
1	21X31A0504	<p>Inheritance and polymorphism ,virtual function,Stream classes.Dynamic binding,static member classes File stream,Exception handling, Overview of OOP concepts- Abstraction,constructors</p>
2	21X31A0506	
3	21X31A0509	
4	21X31A05020	
5	21X31A0525	
6	21X31A0526	
7	21X31A0527	
8	21X31A0533	
9	21X31A0534	
10	21X31A0540	
11	21X31A0547	
12	21X31A0545	
13	21X31A0557	
14	21X31A0559	
15	21X31A0560	
16	21X31A0508	



**BATCH CSE-III BTECH I- SEM CSE - A RESULT ANALYSIS**

ACADAMIC YEAR	COURSE NAME	NUMBER OF STUDENTS		QUESTION PAPER SETTING		PASS%
		APPEARED	PASSED	INTERNAL	EXTERNAL	
2022-23	Object oriented programming using c++	67	53	COURSE FACULTY	EXTERNAL	79.1%

**Principles of Programming Languages(C315) Result Analysis**





# SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

(An Autonomous Institution under UGC)

Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956

(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)

Khalsa Ibrahimpatnam, Sherguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510

Website: <https://siiet.ac.in/>

## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

### REMEDIAL CLASSES TIME TABLE

A.Y 2022-23

SEMESTER-I

BRANCH/ SEC	MON 4.00 PM- 5.00 PM	TUE 4.00 PM-5.00 PM	WED 4.00 PM- 5.00 PM	THUR 4.00 PM- 5.00 PM	FRI 4.00 PM- 5.00 PM
II CSE-A	A&DE	DS	C++	COA	COSM
II CSE-B	DS	A&DE	COSM	C++	COA
II CSE-C	COSM	COA	A&DE	DS	C++
III CSE-A	SE	FLAT	CN	WT	PPL
III CSE-B	WT	CN	SE	PPL	FLAT
III CSE-C	FLAT	WT	PPL	CN	SE
IV CSE-A	C&NS	DM	CC	POE	RTS
IV CSE-B	CC	RTS	C&NS	DM	POE
IV CSE-C	RTS	CC	POE	C&NS	DM

  
HOD

Computer Science & Engg. Dept.  
SRI INDU INSTITUTE OF ENGG & TECH.  
Sherguda(V), Ibrahimpatnam(M), R.R.Dist-501 1C

  
PRINCIPAL

Sri Indu Institute of Engineering & Techno.  
Sherguda(Vill), Ibrahimpatnam  
Ranga Reddy Dist. Telangana -501 510



# SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY



Department of Computer Science and Engineering

## Course Outcome Attainment (Internal Examination-1)

Name of the faculty **P H SWARNA REKHA**

Branch & Section: **CSE-A**

Academic Year:

**2022-23**

Examination:

**I Internal**

Course Name: **Object Oriented Programming Using C++**

Year:

**II**

Semester: **I**

S.No	HT No.	Q1a	Q1b	Q1c	Q2a	Q2b	Q2c	Q3a	Q3b	Q3c	Q4a	Q4b	Q4c	Obj1	A1
<b>Max. Marks ==&gt;</b>		<b>5</b>			<b>5</b>			<b>5</b>			<b>5</b>			<b>10</b>	<b>5</b>
1	21X31A0501													9	5
2	21X31A0502							4			1			6	5
3	21X31A0503							4			4			7	5
4	21X31A0504							4			5			7	5
5	21X31A0505							4			4			7	5
6	21X31A0506							5			4			8	5
7	21X31A0507							4						8	5
8	21X31A0508	1						5						8	5
9	21X31A0509				1			3						8	8
10	21X31A0510							3						8	5
11	21X31A0511		2					4						8	5
12	21X31A0512													9	5
13	21X31A0513					1		2						8	5
14	21X31A0514	1									2			8	5
15	21X31A0515		2					3						8	5
16	21X31A0516		2					3						8	5
17	21X31A0517							4			3			8	
18	21X31A0518		2					3						8	5
19	21X31A0519	2						1						8	5
20	21X31A0520		3					2						8	5
21	21X31A0521							3			4			8	5
22	21X31A0522							4			5			9	5
23	21X31A0523							4			3			8	5
24	21X31A0524							4			4			8	5
25	21X31A0525							5			5			8	5
26	21X31A0526							4			3			8	5
27	21X31A0527							4			2			7	5
28	21X31A0528							1			4			8	5
29	21X31A0529							5			4			8	5
30	21X31A0530							5			1			8	5
31	21X31A0531							1						8	5
32	21X31A0532		2								1			7	5
33	21X31A0533							4			5			9	5
34	21X31A0534							5			2			8	5
35	21X31A0535													9	5
36	21X31A0536							1			1			8	5
37	21X31A0537							5						8	5

38	21X31A0538	1	2					5						8	5
39	21X31A0539							1						8	5
40	21X31A0540							5			5			9	5
41	21X31A0541		1					2						7	5
42	21X31A0542							3			2			8	5
43	21X31A0543							1			4			8	5
44	21X31A0544													9	5
45	21X31A0545							4			5			8	5
46	21X31A0546							3						8	5
47	21X31A0547														5
48	21X31A0548		1					5						8	5
49	21X31A0549							4						8	5
50	21X31A0550							4						8	5
52	21X31A0552							4			1			8	5
53	21X31A0554							5			2			8	5
54	21X31A0555							5			3			9	5
55	21X31A0556							4			4			9	5
56	21X31A0557							5			4			9	5
57	21X31A0559							3			3			8	5
58	21X31A0560							4			3			7	5
59	21X31A0561							3			2			9	5
60	21X31A0562							3			3			8	5
61	21X31A0563	1						4						9	5
62	21X31A0564	1						4						9	5
63	21X31A0565	1						4						9	
64	22X31A0501							4			4			9	5
65	22X31A0502					2		1						8	5
66	22X31A0503							1			2			8	5
67	22X31A0504							2			1			8	5
68	22X31A0505				1	1		4						8	5
69	22X31A0506					2		3						8	5
70	22X31A0507					1		4						8	5
71	22X31A0508				2	2								8	
Target set by the faculty / HoD		3.00	0.00	0.00	3.00	0.00	0.00	3.00	0.00	0.00	3.00	0.00	0.00	6.00	3.00
Number of students performed above the target		0	9	0	0	6	0	50	0	0	24	0	0	69	67
Number of students attempted		7	9	0	3	6	0	62	0	0	37	0	0	69	67
Percentage of students scored more than target		0%	100%		0%	100%		81%			65%			####	100%

**CO Mapping with Exam Questions:**

CO - 1														y	y
CO - 2														y	y
CO - 3														y	y
CO - 4														y	y
CO - 5															
CO - 6															

**CO Attainment based on Exam Questions:**

CO - 1														####	100%
CO - 2														####	100%
CO - 3														####	100%
CO - 4														####	100%
CO - 5															
CO - 6															

CO	Subj	obj	Asgn	Overall	Level
CO-1		100%	100%	100%	3.00
CO-2		100%	100%	100%	3.00
CO-3		100%	100%	100%	3.00
CO-4		100%	100%	100%	3.00
CO-5					
CO-6					

Attainment Level	
1	40%
2	60%
3	>60%

Attainment (Internal 1 Examination) =

**3.00**

Faculty Signature





36	21X31A0536	1						4						7	5
37	21X31A0537							4			5			9	5
38	21X31A0538				5						5			9	5
39	21X31A0539				4						4			8	5
40	21X31A0540	5									5			9	5
41	21X31A0541				5						3			8	5
42	21X31A0542	5			5									9	5
43	21X31A0543				5						4			8	5
44	21X31A0544														5
45	21X31A0545							5			5			10	5
46	21X31A0546							2						8	5
47	21X31A0547														5
48	21X31A0548							4			5			9	5
49	21X31A0549							2			3			8	5
50	21X31A0550							2			3			8	5
51	21X31A0552							4			3			8	5
52	21X31A0554	5									5			10	5
53	21X31A0555	2									3			8	5
54	21X31A0556	4			4									8	5
55	21X31A0557							4			5			7	5
56	21X31A0559							4			4			8	5
57	21X31A0560	5						5						9	5
58	21X31A0561	5			4									9	5
59	21X31A0562	5									4			9	5
60	21X31A0563														5
61	21X31A0564														5
62	21X31A0565														5
63	22X31A0501							5			5			10	5
64	22X31A0502							5			5			10	5
65	22X31A0503							4			4			9	5
66	22X31A0504	4			4									9	5
67	22X31A0505							5			5			10	5
68	22X31A0506							4			5			8	5
69	22X31A0507							2			5			9	5
70	22X31A0508							5			4			9	5
Target set by the faculty / HoD		3.00	0.00	0.00	3.00	0.00	0.00	3.00	0.00	0.00	3.00	0.00	0.00	6.00	3.00
Number of students performed above the target		14	0	0	13	0	0	35	0	0	43	0	0	58	69
Number of students attempted		16	0	0	14	0	0	40	0	0	44	0	0	58	69
Percentage of students scored more than target		88%			93%			88%			98%			100%	100%

**CO Mapping with Exam Questions:**

CO - 1														
CO - 2														
CO - 3														
CO - 4	y	y											y	y
CO - 5				y	y		y						y	y
CO - 6										y			y	y

**CO Attainment based on Exam Questions:**

CO - 1														
CO - 2														
CO - 3														
CO - 4	88%												100%	100%
CO - 5				93%			88%						100%	100%
CO - 6									98%				100%	100%

CO	Subj	obj		Asgn	Overall	Level
CO-1						
CO-2						
CO-3						
CO-4	88%	####		100%	96%	3.00
CO-5	90%	####		100%	97%	3.00
CO-6	98%	####		100%	99%	3.00

Attainment Level	
1	40%
2	60%
3	>60%

Attainment (Internal Examination-2) =

**3.00**

Faculty  
Signature

# SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY



## Department of Computer Science and Engineering Course Outcome Attainment (University Examinations)

Name of the faculty : P H SWARNA REKHA

Academic Year:

**2022-23**

Branch & Section: CSE- A

Year / Semester:

II/I

Course Name: OBJECT

S.No	Roll Number	Marks Secured
1	21X31A0501	30
2	21X31A0502	27
3	21X31A0503	26
4	21X31A0504	42
6	21X31A0506	32
7	21X31A0507	5
8	21X31A0508	14
9	21X31A0509	26
10	21X31A0510	15
11	21X31A0511	33
12	21X31A0512	0
13	21X31A0513	50
14	21X31A0514	45
15	21X31A0515	26
16	21X31A0516	26
17	21X31A0517	45
18	21X31A0518	26
19	21X31A0519	47
20	21X31A0520	48
21	21X31A0521	33
22	21X31A0522	41
23	21X31A0523	40
24	21X31A0524	26
25	21X31A0525	34
26	21X31A0526	29
27	21X31A0527	42
28	21X31A0528	35
29	21X31A0529	26
30	21X31A0530	33
31	21X31A0531	11
32	21X31A0532	34
33	21X31A0533	40
34	21X31A0534	39
35	21X31A0535	2

S.No	Roll Number	Marks Secured
36	20X31A0537	30
37	20X31A0538	40
38	20X31A0539	0
39	20X31A0540	38
40	20X31A0541	29
41	20X31A0542	27
42	20X31A0543	8
43	20X31A0544	3
44	20X31A0545	27
45	20X31A0546	3
46	20X31A0547	28
47	20X31A0548	28
48	20X31A0549	30
49	20X31A0550	26
50	20X31A0552	5
51	20X31A0553	30
52	20X31A0554	26
53	20X31A0555	13
54	20X31A0556	26
55	20X31A0557	14
56	20X31A0558	30
57	20X31A0559	26
58	20X31A05560	26
59	20X31A0561	26
60	21X31A0562	26
61	21X31A0563	16
62	21X31A0564	30
63	21X31A0565	40
64	22X35A0501	0
65	22X35A0502	38
66	22X35A0503	29
67	22X35A0505	27

Max Marks	75
Class Average mark	34
Number of students performed above the target	30
Number of successful students	53

Percentage of students scored more than target	59%
<b>Attainment level</b>	<b>2</b>

3	60%
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# SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

Department of Computer Science and Engineering

## Course Outcome Attainment



Name of the faculty  
PH  
SWARNA  
REKHA

Academic Year :2022-23  
Examination: I Internal

Branch & Section: CSE- A

Year: II  
Semester: I

Course Name: OBJECT ORIENTED  
PRORGAMMING USING C++

Course Outcomes	1st Internal Exam	2nd Internal Exam	Internal Exam	University Exam	Attainment Level
CO1	3.00		3.00	3.00	3.00
CO2	3.00		3.00	3.00	3.00
CO3	3.00		3.00	3.00	3.00
CO4	3.00	3.00	3.00	3.00	3.00
CO5		3.00	3.00	3.00	3.00
CO6		3.00	3.00	3.00	3.00
<b>Internal &amp; University Attainment:</b>			3.00	2.00	
<b>Weightage</b>			70%	30%	
<b>CO Attainment for the course (Internal, University)</b>			2.10	0.90	
<b>CO Attainment for the course (Direct Method)</b>			3.00		

Overall course attainment level

**3.00**

# SRI INDU INSTITUTE OF ENGINEERING & TECHNOLOGY

Department of Computer Science and Engineering

## Program Outcome Attainment (from Course)



Name of Faculty: P H SWARNA REKHA      Academic Year: 2022-23  
 Branch & Section: CSE- A      Year: II  
 Course Name: OBJECT ORIENTED PROGRAMMING USING C++      Semester: I

### CO-PO mapping

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	1	2											
CO2	2		3									1		
CO3	2		3									1		
CO4	3	1	2											2
CO5	2		3									1		
CO6	1	2	3											
Course	2.1	1.3	2.6											2

CO	Course Outcome Attainment
CO1	2.25
CO2	2.25
CO3	2.25
CO4	2.25
CO5	2.25
CO6	2.25
<b>Overall course attainment level</b>	<b>2.25</b>

### PO-ATTAINMENT

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO Attainment	2.10	1.20	1.95	1.50								1.50

CO contribution to PO - 33%, 67%, 100% (Level 1/2/3)



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Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510

Website: <https://siiet.ac.in/>

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## **ASSIGNMENTS AND ATTENDANCE REGISTER**

**Assignment-1 Script link:**

[https://drive.google.com/file/d/1FbSICHQJwj9RO9qHEusxRpDc\\_wLDwGPG/view?usp=drive\\_link](https://drive.google.com/file/d/1FbSICHQJwj9RO9qHEusxRpDc_wLDwGPG/view?usp=drive_link)

**Assignment-2 Script link:**

[https://drive.google.com/drive/folders/1bAwBn7vLZiVsNAnU-Pn3TfHpo5Y3sZ3S?usp=drive\\_link](https://drive.google.com/drive/folders/1bAwBn7vLZiVsNAnU-Pn3TfHpo5Y3sZ3S?usp=drive_link)

**Attendance Register Link:**

[https://drive.google.com/drive/folders/10qoV2NWF7IYkOPB06-dL5q1qNhllRRrp?usp=drive\\_link](https://drive.google.com/drive/folders/10qoV2NWF7IYkOPB06-dL5q1qNhllRRrp?usp=drive_link)



