GEETANJALI INSTITUTE OF TECHNICAL STUDIES

(Approved by AICTE, New Delhi and Affiliated to Rajasthan Technical University Kota(Raj.))

DABOK, UDAIPUR, RAJASTHAN 313022

GEETANJALI
INSTITUTE OF TECHNICAL STUDIES

TEACHER'S ACADEMIC RECORD BOOK

Name of the Teacher:	Charu Kavadia	
Designation:	Assistant Professor	
Department:	Computer Science and Engineering	
Course:	B. Tech.	
Subject with RTU Code:	Object Oriented Programming 3CS4-06	
NBA Code of Course	C23406	
Class: (Year/Semester/Section)	II/III/A and B	
Academic Year and Term (Even/Odd)	2019-20 (Odd)	

Website: www.gits.ac.in

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DIRECTOR
Geetanjali Institute of Technical Studies
Dabok, UDAIPUR-313022 (Raj.)

Name of faculty: Ms. Charu Kavadia

Subject with Code: Object Oriented Programming 3CS4-06

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GEETANJALI INSTITUTE OF TECHNICAL STUDIES

VISION & MISSION OF INSTITUTE

Vision of Geetanjali institute of Technical studies

To achieve excellence in technical and management education through quality teaching and innovation.

Mission of Geetanjali institute of Technical studies

M1: To provide an excellent learning environment to produce socially responsible and productive technical professionals.

M2: To set up the state-of-the-art facilities for quality education and innovation.

M3: To impart knowledge & Skills leading to shaping a budding manager as a quality executive.

M4: To encourage for life-long learning and team-based problem solving through learning environment.

Department Vision

To nurture the students to become employable graduates who can provide solutions to the societal issues through ICT.

Department Mission

M1: To focus on practical approach towards learning and exposing the students on the latest ICT technologies.

M2: To foster logical thinking among the students to solve real-time problems using innovative approaches.

M3: To provide state-of-the-art resources that contributes to inculcate ethical and life-long learning environment.

Programme Educational Objectives (PEOs)

The Programme Educational Objectives of the programme offered by the department are listed below:

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PEO1: To enable the students to think out-of-the-box solutions for addressing societal issues through ICT.

PEO2: To impart skills in students to analyse, design and implement Software/Hardware solutions to solve interdisciplinary and complex problems.

PEO3: To expose the students towards effective dissemination of research findings in order to become successful entrepreneurs or to pursue higher education.

PROGRAM SPECIFIC OUTCOMES (PSO's)

PSO1: Professional Skills: The ability to understand, analyze and develop computer programs in the areas related to algorithms, system software, multimedia, web design, big data analytics, and networking for efficient design of computer-based systems of varying complexity.

PSO2: Problem-Solving Skills: The ability to apply standard practices and strategies in software project development using open-ended programming environments to deliver a quality product for business success.

PSO3: Successful Career and Entrepreneurship: The ability to employ modern computer languages, environments, and platforms in creating innovative career paths to be an entrepreneur, and a zest for higher studies.

PROGRAMME OUTCOMES (POs)

A student will develop:

1. **ENGINEERING KNOWLEDGE:** An ability to apply knowledge of Mathematics, Science and Engineering Fundamentals in Computer Science & Engineering.

2. **PROBLEM ANALYSIS:** An ability to analyze and interpret data by designing and conducting experiments. Develop the knowledge of developing algorithms, designing, implementation and testing applications in computer related areas.

3. **DESIGN/ DEVELOPMENT OF SOLUTION:** An ability to Design a system Component or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.

4. **CONDUCTION OF INVESTIGATION OF COMPLEX PROBLEMS:** An ability to Identify, formulate and solve engineering problems.

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5. **MODERN TOOL USAGE:** An ability to use the techniques, skills and modern engineering tools necessary for engineering practice.

6. **THE ENGINEERING AND SOCIETY:** Broad education necessary to understand the impact of engineering solutions in a global, economic, environmental and societal context.

7. **ENVIRONMENT & SUSTAINABILITY:** Understand the impact of professional engineering solution in societal and environmental contexts, and demonstrate the knowledge of, and need of sustainable development.

8. **ETHICS:** An ability to understand the professional, social and ethical responsibility.

9. **INDIVIDUAL AND TEAM WORK:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

10. **COMMUNICATION:** An ability to Communicate effectively in order to succeed in their profession such as, being able to write effective reports and design documentation, make effective presentations.

11. **PROJECT MANAGEMENT & 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 team, to manage projects and in multidisciplinary environment.

12. **LIFE-LONG LEARNING:** Recognize the need and an ability to engage in life-long learning.

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COURSE OUTCOMES (COs) OF THE SUBJECT

After completing this course the student must demonstrate the knowledge and ability to:

$CO_{23406.1}$	To understand the different programming paradigm	
$CO_{23406.2}$	To know the principles of OOPs	
$CO_{23406.3}$	Understand and apply the principles of inheritance	
$CO_{23406.4}$	Understand the principles of polymorphism	
$CO_{23406.5}$	To develop programming skills of for solve basic real world problems using oriented programming techniques.	

COS MAPPING WITH POs AND PSOs

Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
$CO_{23406.1}$	1	3	0	0	0	0	0	0	0	0	0	0	2	0	0
$CO_{23406.2}$	1	2	2	0	0	0	0	0	0	0	0	0	1	0	0
$CO_{23406.3}$	1	0	2	2	1	0	0	0	0	0	0	0	2	1	0
$CO_{23406.4}$	1	2	2	0	1	0	0	0	0	0	0	0	1	2	0
$CO_{23406.5}$	1	3	1	0	0	0	0	0	0	0	0	0	1	2	0
$CO23406$ (AVG)	1	2	1.4	0.4	0.4	0	0	0	0	0	0	0	1.4	1	0

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UNIVERSITY ACADEMIC CALENDAR

GEETANJALI INSTITUTE OF TECHNICAL STUDIES, UDAIPUR

RTU ACADEMIC CALANDER FOR ODD SEM (2019-20)

PARTICULARS	B.TECH. I	B.TECH. III	B.TECH. V	B.TECH. VII
Induction Program	01.08.2019 - 15.08.2019			
Commencement of Classes	16.08.2019	2.07.2019	13.7.2019	2.7.2019
First Mid Term	30.09.2019	09.08.2009	26.08.2019	19.08.2019
Second Mid Term	14.11.2019	04.11.2019	16.10.2019	21.10.2019
Last Working Day	18.11.2019	06.10.2009	31.10.2019	30.10.2019
Commencement of Practical Exams	19.11.2019	18.11.2009	25.11.2019	27.11.2019
Commencement of Theory Exams	05.12.2019	04.12.2009	07.01.2019	06.11.2019
Winter Break	23.12.2009 to 31.01.2019			
Commencement of Classes for next Even Semester (2019-20)	II	IV	VI	VIII
	00.01.2009	09.00.2009	09.12.2019	09.12.2019

GITS ACADEMIC CALANDER FOR ODD SEM (2019-20)

Induction Program	01.08.2019 - 15.08.2019			
Class Start Date	16.08.2019	2.07.2019	13.7.2019	2.7.2019
Class End Date	18.11.2019	16.11.2019	31.10.2019	30.10.2019
No. of Working Days available	80	116	105	90
No. of Teaching Class Available	69	106	90	85
Theory Exam Start Date	05.12.2019	04.12.2009	07.01.2019	06.11.2019
Practical Exam Start Date	19.11.2019	18.10.2009	25.11.2009	27.11.2019
Practical Exam End Date	23.11.2009	12.11.2019	30.11.2009	28.11.2019
Continuous Evaluation				
First Mid Term Test	30.09.2019	09.08.2019	26.08.2019	19.08.2019
Second Mid Term Test	14.11.2019	04.11.2019	16.10.2019	21.10.2019
Continuous Assessment				
CB Meet 1	05.12.2019	14.08.2019	30.08.2019	24.08.2019
CB Meet 2	07.15.2019	08.11.2019	15.10.2019	24.10.2019
Assignment 1 & 2 Submission Date	25.09.2019	10.08.2019	21.08.2019	03.09.2019
Assignment 3,4 & 5 Submission Date	04.11.2019	13.10.2019	11.10.2019	06.10.2019
Parents Teacher Meeting	05.12.2019			
Attendance Display of July (For II & IV Year)	01.08.2019			
Attendance Display of August	01.09.2019			
Attendance Display of September	01.10.2019			
Attendance Display of October	01.11.2019			
Attendance Display of November (For I & II)	18.11.2019			
Course Coverage report of July (For II & IV)	01.08.2019			
Course Coverage report of August	01.09.2019			
Course Coverage report of September	01.10.2019			
Course Coverage report of October	01.11.2019			
Course Coverage report of November (For I & II Yr)	18.11.2019			

Dr. P.C. Bapna
Dean - Academics

Dr. Vikas Misra
Director

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FACULTY DETAILS:

Name of the Faculty: Charu Kavadia

Designation: Assistant Professor

Department: Computer Science and Engineering

1. TARGET

a) Percentage Pass: 100%
b) Percentage I class: 80 %

2. COURSE OBJECTIVE

To make students understand the different programming paradigm
To make students know the principles of OOPs
To make students understand and apply the principles of inheritance
To make students develop programming skills of undergraduate students to   solve basic real world problems using objective oriented programming techniques.

3. METHOD OF EVALUATION

3.1. 2)	√	Continuous Assessment Examinations (Mid-Term 1, Mid-Term
3.2.	√	Assignments / Seminars
3.3.	√	Mini Projects
3.4.	√	Quiz
3.5. Others		

4. List out any new topic(s) or any innovation you would like to introduce in teaching the subject in this Semester.

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Signature of Faculty:

Signature of HOD

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UNIVERSITY SYLLABUS

RAJASTHAN TECHNICAL UNIVERSITY, KOTA

Syllabus

II Year-III Semester: B.Tech. Computer Science and Engineering

3CS4-06: Object Oriented Programming

Credit-3
3L+0T+0P

Max. Marks : 150 (IA:30,ETE:120)
End Term Exam: 3 Hours

SN	CONTENTS	Hours
1	Introduction to different programming paradigm, characteristics of OOP, Class, Object, data member, member function, structures in C++, different access specifiers, defining member function inside and outside class, array of objects.	8
2	Concept of reference, dynamic memory allocation using new and delete operators, inline functions, function overloading, function with default arguments, constructors and destructors, friend function and classes, using this pointer.	8
3	Inheritance, types of inheritance, multiple inheritance, virtual base class, function overriding, abstract class and pure virtual function	9
4	Constant data member and member function, static data member and member function, polymorphism, operator overloading, dynamic binding and virtual function	9
5	Exception handling, Template, Stream class, File handling.	6
	TOTAL	40

PRESCRIBED BOOKS

1. OBJECT ORIENTED PROGRAMMING WITH C++- E. BALAGURUSWAMY, MCGRAW HILL
2. MASTERING C++- K R VENUGOPAL, RAJKUMAR, T RAVISHANKAR, MCGRAW HILL
3. PROGRAMMING WITH C++- D RAVICHANDRAN, MCGRAW HILL

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WEEKLY TIME TABLE OF THE TEACHER

First Time Table: with effect from (3/7/19):

Day	1	2	3	4	5	6	7	8	9
Monday		CS III Sem A	CS III Sem B	L U N C H					
Tuesday	CS III Sem A					CS III Sem A			
Wednesday	:								
Thursday		CS III Sem A				CS III Sem A			
Friday									
Saturday	CS III Sem B		CS III Sem A						

Revision: 1 with effect from (22/7/19):

Day	1	2	3	4	5	6	7	8	9
Monday			CS III Sem B						
Tuesday	CS III Sem A					CS III Sem B			
Wednesday	CS III Sem A								
Thursday	CS III Sem : A	CS III Sem B							
Friday									
Saturday		CS III Sem B	CS III Sem A						

Revision: 2 with effect from (14/8/19):

Day	1	2	3	4	5	6	7	8	9
Monday		CS III Sem A		L U N C H					
Tuesday	CS III Sem A					CS III Sem B			
Wednesday									
Thursday		CS III Sem A							
Friday	CS III Sem A		CS III Sem B						
Saturday	CS III Sem A		CS III Sem B						

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COURSE-PLAN

UNIT	Lect. No.	TOPICS	Teaching Methods/ Teaching Aids	Actual date of Delivery A	Actual date of Delivery B
1	1	Introduction to different Programming Paradigm	Lecture/White Board	8/7/19	2/7/19
1	2	Characterstics of OOP	Lecture/White Board	9/7/19	8/7/19
1	3	Class, Object, Data Member,	Lecture/White Board	10/7/19	9/7/19
1	4	Member Functions	Lecture/White Board	10/7/19	15/7/19
1	5	Structures in C++	Lecture/White Board	15/7/19	15/7/19
1	6	Different Access Specifiers	Lecture/White Board	16/7/19	16/7/19
1	7	Defining Member Function inside and outside class	Lecture/White Board	17/7/19	17/7/19
1	8	Array of Objects	Lecture/White Board	18/7/19	18/7/19
2	9	Concept of Reference	Lecture/White Board	22/7/19	22/7/19
2	10	Dynamic Memory Allocation using New and Delete Operators	Lecture/White Board	24/7/19	25/7/19
2	11	Inline Functions, Function Overloading, Function with default arguments	Lecture/White Board	25/7/19	27/7/19
2	12	Constructors	Lecture/White Board	27/7/19	29/7/19
2	13	Destructors	Lecture/White Board	30/7/19	30/7/19
2	14	Friend Function and Classes-1	Lecture/White Board	31/7/19	1/8/19
2	15	Friend Function and Classes-2	Lecture/White Board	1/8/19	5/8/19

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2	16	Using This Pointer	Lecture/White Board	3|8|19	6|8|19
3	17	Inheritance	Lecture/White Board	6|8|19	8|8|19
3	18	Types of Inheritance-1	Lecture/White Board	7|8|19	9|8|19
3	19	Types of Inheritance-2	Lecture/White Board	8|8|19	13|8|19
3	20	Multiple Inheritance	Lecture/White Board	9|8|19	17|8|19
3	21	Virtual Base Class	Lecture/White Board	16|8|19	19|8|19
3	22	Function Overrriding	Lecture/White Board	17|8|19	20|8|19
3	23	Abstract Class	Lecture/White Board	19|8|19	28|8|19
3	24	Pure Virtual Function	Lecture/White Board	27|8|19	29|8|19
4	25	Constant Data Member and Member Function	Lecture/White Board	30|8|19	30|8|19
4	26	Static Data Member and Member Function	Lecture/White Board	31|8|19	31|8|19
4	27	Polymorphism	Lecture/White Board	3|9|19	3|9|19
4	28	Operator Overloading-1	Lecture/White Board	6|9|19	5|9|19
4	29	Operator Overloading-2	Lecture/White Board	7|9|19	6|9|19
4	30	Dynamic Binding	Lecture/White Board	9|9|19	7|9|19
4	31	Virtual Function-1	Lecture/White Board	13|9|19	10|9|19

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4	32	Virtual Function-2	Lecture/White Board	16|9|19	12|9|19
5	33	Exception Handling-1	Lecture/White Board	17|9|8	13|9|9
5	34	Exception Handling-2	Lecture/White Board	19|9|19	19|9|19
5	35	Templates-1	Lecture/White Board	23|9|19	20|9|19
5	36	Templates-2	Lecture/White Board	25|9|19	26|9|19
5	37	Stream Class	Lecture/White Board	30|9|19	27|9|19
5	38	File Handling-1	Lecture/White Board	5|10|19	3|10|19
5	39	File Handling-2	Lecture/White Board	7|10|19	4|10|19
5	40	File Handling-3	Lecture/White Board	14|10|19	10|10|19
	41	Revision(5 Unit)	Lecture/White Board	19|10|19	11|10|19
	42	Revision(4 Unit)	Lecture/White Board	21|10|19	17|10|19
	43	Revision(3 Unit)	Lecture/White Board	31|10|19	18|10|19
	44	Revision(2 Unit)	Lecture/White Board	1|11|18	22|10|19
	45	Revision(1 Unit)	Lecture/White Board	—	7|11|19

Signature of Faculty :

Signature of HOD

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TUTORIAL SHEETS

(Unit wise)

UNIT –I ($CO_{23406.1}$)   Date : 22/7/1 (A), 22/7/19(B)

Questions

Q.1 Describe the mechanism of accessing data members and member functions in the following case:-

(i) inside the main program.

(ii) Inside the member function of the same class.

Q.2 Create a structure to specify data of customers in a bank. The data to be stored is:-Account number, Name , Balance in account. Assume maximum of 20 customers in the bank:-

(i)Write a function to print the account number and name of each customer with balance below Rs 100.

(ii) If a customer request for withdrawl or deposit, it is given in the form:-

Acct.no, amount,code {1 for deposit, 0 for withdrawl}. Write a C++ program to give the message,"The balance is insufficient for specified withdrawl".

Q.3 Discuss various use of :: (Scope Resolution Operator) in C++.

UNIT –II ($CO_{23406.2}$)   Date: 6/8/19(A), 8/8/19(B)

Questions

Q.1 Explain 'this' Pointer in detail with its application and example.

Q.2 Explain the concept of inline functions in C++ with its benefits. Also give differences between macro and inline functions.

Q.3 Explain Constructors with characteristics, types, syntax and examples. Also explain Destructor with example. Give differences between Constructors and Destructors.

UNIT –III($CO_{23406.3}$)   Date: 30/8/19(A),30/8/19(B)

Questions

Q.1 Explain Multiple Inheritance with example. Explain the ambiguities that may arise in case of single and multiple Inheritance and how it is resolved.

Q.2 Explain Virtual Base Class. Explain why we make a class virtual. Explain with example.

Q.3 Explain abstract class with its example and applications.

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UNIT –IV(CO23406.4)   Date: 17/9/19(A), 3/9/19(B)

Questions

Q.1 Write a C++ program to make a class named "string" which uses concept of operator overloading to compare two strings by (==) operator.

Q.2 Define a complete class name distance with feets and inches as data members.Overload += between two objects of distance class.

Q.3 Explain Run time Polymorphism with its advantages. Explain Virtual Function with its need, properties and example. Also explain pure Virtual Function with its need and example.

UNIT –V (CO23406.5)   Date: 19/10/19(A), 1/10/19(B)

Questions

Q.1 Explain Exception Handling with its mechanism in detail. Explain try, throw and catch constructs used in C++ with their syntax and example.

Q.2 Explain Template Class and Template Function. Explain how it supports generic Programming. Write a program to implement swapping using templates.

Q.3 Explain File Handling with its advantages. Explain opening of file with the help of constructor and open function.

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ASSIGNMENT

UNIT –I(CO23406.1)

Date of Assignment given :- 18/7/19(A)
                            18/7/19(B)

Date of Submission:22/7/19(A)
                     22/7/19(B)

SET 1 (Roll No.18EGICS001-18EGICS015 and Roll No.18EGICS059-18EGICS072)

Ques 1(a). Explain Object Oriented Programming. Discuss it with all the features. Also give advantages of OOPs. Give differences between Object Oriented and Structured Programming. **(RTU 2016, 2015, 2013, 2011,2010)**

Ques 1(b). Describe the mechanism of accessing data members and member functions in the following case:- **(RTU 2016)**

(i) inside the main program.

(ii) Inside the member function of the same class.

Ques 2. Create a structure to specify data of customers in a bank. The data to be stored is:-Account number, Name , Balance in account. Assume maximum of 20 customers in the bank:- **(RTU 2016)**

(i)Write a function to print the account number and name of each customer with balance below Rs 100.

(ii) If a customer request for withdrawl or deposit, it is given in the form:-

Acct.no, amount,code {1 for deposit, 0 for withdrawl}. Write a C++ program to give the message,"The balance is insufficient for specified withdrawl".

SET 2 (Roll No.18EGICS016-18EGICS028 and Roll No.18EGICS073-18EGICS085)

Ques 1(a). Explain all the concepts of Object Oriented Programming. **(RTU 2014, 2016, 2010, 2011)**

Ques 1(b). Discuss various use of :: (Scope Resolution Operator) in C++. **(RTU 2015, 2018)**

Ques 2 Create a structure for student data, fill the date by using a function by passing that structure instance to function. Write C++ code. **(RTU 2015)**

SET 3 (Roll No.18EGICS029-18EGICS042 and Roll No.18EGICS086-18EGICS098)

Ques 1(a). Explain different Programming Paradigms in detail with example. **(RTU 2018)**

Ques 1(b). Describe the syntax for Class and Object specification with examples. How does it accomplish data Hiding. Give an example. **(RTU 2013)**

Ques 2 Create a time class that includes integer numbers values for hours, minutes and seconds. Make a member function get_time() that gets a time value from the user and a function put_time() that displays time in 12:59:59 format. Add error checking to the get_time() function to minimize user mistakes.the function should request hours, minutes and seconds separately. And check the range should be between 0 and 23, and minutes and seconds between 0 and 59. **(RTU 2018)**

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SET 4 (Roll No.18EGICS043-18EGICS057 and Roll No.18EGICS099-18EGICS111 AND Diploma Students)

Ques 1(a). Explain the differences between Structures in C and C++. Also give differences between structures in C and classes in C++. **(RTU 2018, 2016, 2014)**

Ques 1(b). Explain Access Specifiers in C++. Also explain defining member functions inside and outside class with example. **(RTU 2018, 2016)**

Ques 2 Use for loops to construct a program on the screen. The pyramid should look like this: **(RTU 2018)**

```
          1
       1  2  1
    1  2  3  2  1
  1  2  3  4  3  2  1
1  2  3  4  5  4  3  2  1
```

UNIT –II(CO$_{23406.2}$)

Date of Assignment given :- 3/8/19(A)　　　　　　**Date of Submission: 7/8/19(A)**
　　　　　　　　　　　　6/8/19(B)　　　　　　　　　　　　　　**9/8/19(B)**

SET 1 (Roll No.18EGICS001-18EGICS015 and Roll No.18EGICS059-18EGICS072)

Ques 1(a). Explain concept of reference in C++. Discuss similarities and dissimilarities between pointer and references in C++. **(RTU 2015)**

Ques 1(b). Explain mechanism of accessing a private data member of the class from a non-member function and justify it with a program in C++ to swap private data members of two classes. Also discuss the characterstics and need of the mechanism. **(RTU 2017, 2016, 2015, 2014, 2013)**

Ques 2 Design a class having Constructor and Destructor functions that should display the number of objects being created or destroyed of class type. **(RTU 2018, 2016)**

SET 2 (Roll No.18EGICS016-18EGICS028 and Roll No.18EGICS073-18EGICS085)

Ques 1(a). Explain 'this' Pointer in detail with its application and example. **(RTU 2015)**

Ques 1(b). Explain the concept of inline functions in C++ with its benefits. Also give differences between macro and inline functions. **(RTU 2013, 2010)**

Ques 2 Design a C++ program to overload swap function to swap two integers, two floats and two characters respectively.

SET 3 (Roll No.18EGICS029-18EGICS042 and Roll No.18EGICS086-18EGICS098)

Ques 1(a). Explain Constructors with characteristics, types, syntax and examples. Also explain Destructor with example. Give differences between Constructors and Destructors. **(RTU 2018, 2013, 2011, 2010)**

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Ques 1(b). Explain Friend Function and classes with its need, characterstics and example. **(RTU 2017, 2016, 2015, 2014, 2011, 2010)**

Ques 2 Write an inline function factorial(int x) which returns the factorial of value x. Test the function by reading values from the keyboard. **(RTU 2018)**

SET 4 (Roll No.18EGICS043-18EGICS057 and Roll No.18EGICS099-18EGICS111 AND Diploma Students)

Ques 1(a). Explain the process of creating and destroying objects dynamically using 'new' and 'delete' operator. Also give advantages of run-time (Dynamic) allocation/management over compile(Static) allocation/management. **(RTU 2018, 2016, 2015)**

Ques 1(b). Explain Function Overloading with its advantages and example. Also explain function with default arguments. **(RTU 2014, 2010)**

Ques 2 Design a C++ program to add three objects of three different classes using friend function.

UNIT –III (CO23406.3)

Date of Assignment given: 27/8/19(A)
29/8/19 (B)

Date of Submission: 3/9/19(A)
3/9/19 (B)

SET 1 (Roll No.18EGICS001-18EGICS015 and Roll No.18EGICS059-18EGICS072)

Ques 1(a). Explain Inheritance with its advantages and types. Explain each type with an example.. Explain the way to make a private member inheritable without modifying. **(RTU 2018, 2017, 2016, 2015, 2014, 2013, 2011, 2010)**

Ques 1(b). Explain the effect of using the access specifiers with class members on Inheritance. **(RTU 2017,2015, 2013)**

Ques 2. Create a class named "student" that contains roll_number, stu_name, course_name, father_name and DOB as data member and Input_student and display_student as member functions. Create a derived class named "exam" from the class named "student" with publically inherited mode. The derived class contains members as mark1, mark2,mark3 as marks of three subjects and input_marks and display_results as member functions. Create an array of objects of "exam" class and display the result of 10 students. **(RTU 2018)**

SET 2 (Roll No.18EGICS016-18EGICS028 and Roll No.18EGICS073-18EGICS085)

Ques 1(a). Explain visibility modifiers. Explain what happens to private, public and protected data of class B, when a class D is derived from B- a)Publically b) Protectedly c) Privately with example. **(RTU 2017,2015, 2013)**

Ques 1(b). Explain abstract class with its example and applications(or Explain the role of building the abstract classes while building the class hierarchy.). **(RTU 2018, 2017, 2016, 2015, 2013)**

Ques 2. Create a class named "student" that contains roll_number, stu_name, course_name, father_name and DOB as data member and Input_student and display_student as member functions. Create a first derived class named "exam" from the class named "student" with publically inherited mode. This derived class contains members as mark1, mark2,mark3 as marks of three subjects and input_marks and display_marks as member functions. Create a second derived class "sports" from the class "student" with publically inherited

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mode. This derived class contains members as sports_weightage as sports marks and input_sportsmarks and display_sportsmarks as member functions. Derive another class "result" deriving both "exam" and "sports" for calculating result considering exams as well as sports marks. Create an array of objects of "result" class and display the result of 10 students.

SET 3 (Roll No.18EGICS029-18EGICS042 and Roll No.18EGICS086-18EGICS098)

Ques 1(a). Explain Multiple Inheritance with example. Explain the ambiguities that may arise in case of single and multiple Inheritance and how it is resolved. (RTU 2017, 2016, 2015, 2014, 2013, 2011, 2010)

Ques 1(b). Describe how an object of class that contains objects of other classes created with example. (RTU 2016)

Ques 2 Create a class named "student" that contains roll_number, stu_name, course_name, father_name and DOB as data member and Input_student and display_student as member functions. Create a first derived class named "exam" from the class named "student" with publically inherited mode. This derived class contains members as mark1, mark2,mark3 as marks of three subjects and input_marks and display_marks as member functions. Create a second derived class "sports" from the class "student" with publically inherited mode. This derived class contains members as sports_weightage as sports marks and input_sportsmarks and display_sportsmarks as member functions. Create a third derived class "cultural_activity from the class "student" with publically inherited mode. This derived class contains members as cultural_weightage as cultural activity marks and input_culturalmarks and display_culturalmarks as member functions. Derive another class "result" deriving "exam","sports" and "culturul_activity" for calculating result considering exams, sports as well as cultural activity marks. Create an array of objects of "result" class and display the result of 10 students.

SET 4 (Roll No.18EGICS043-18EGICS057 and Roll No.18EGICS099-18EGICS111 AND Diploma Students)

Ques 1(a). Explain Virtual Base Class. Explain why we make a class virtual. Explain with example. (RTU 2103, 2011,2010)

Ques 1(b). Design two classes to show the multiple Inheritance. How does a object of derived class access the member of base class. (RTU 2017, 2016, 2015, 2014, 2013, 2011, 2010)

Ques 2. Create a C++ program that has two classes (one for employee and one for student), have a separate class for address (with door no, street name, city, state) and reuse address both for employee and student. Perform insert, delete and display operations by taking choice of person (employee or student) from the user.

UNIT –IV (CO23406.4)

Date of Assignment given: 16/9/19(A)
12/9/19(B)

Date of Submission: 23/9/19(A)
19/9/19(B)

SET 1 (Roll No.18EGICS001-18EGICS015 and Roll No.18EGICS059-18EGICS072)

Ques 1(a). Explain Static Class Members(Static Data Members and Static Member Functions). Mention their properties in detail. Write a program to count number of objects created for a particular class using static data member. (RTU 2018)

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Ques 1(b). Explain the term Dynamic Binding. How its useful in OOPs. Explain the concept of Virtual Functions with with its need, properties and example. **(RTU 2018, 2017, 2016, 2014, 2011, 2010)**

Ques 2 Write a C++ program to make a class named "string" which uses concept of operator overloading to concatenate two strings by (+) operator. **(RTU 2017, 2015, 2013)**

SET 2 (Roll No.18EGICS016-18EGICS028 and Roll No.18EGICS073-18EGICS085)

Ques 1(a). Explain Operator Overloading with its need, restrictions and limitations. List the operators that cannot be overloaded. Explain Operator Function with its syntax and the process of overloading unary and binary operators with member function as well as friend function with example. **(RTU 2018, 2017, 2016, 2014, 2013, 2011, 2010)**

Ques 1(b). Explain Pure Virtual Functions. Explain the implications of making function Pure Virtual Function. **(RTU 2018,2016, 2013)**

Ques 2 Write a C++ program to make a class named "string" which uses concept of operator overloading to compare two strings by (==) operator. **(RTU 2010)**

SET 3 (Roll No.18EGICS029-18EGICS042 and Roll No.18EGICS086-18EGICS098)

Ques 1(a). Explain the limitations of overloading unary increment/decrement operator in a same program. Explain how they are overcome. Write a C++ program to overload a unary operator. **(RTU 2017, 2013)**

Ques 1(b). Explain Run time Polymorphism(Function Overriding) with its advantages. Explain Virtual Function with its need, properties and example. Also explain pure Virtual Function with its need and example. **(RTU 2018, 2016, 2015, 2011, 2010)**

Ques 2 . Define a complete class name distance with feets and inches as data members.Overload += between two objects of distance class. **(RTU 2016)**

SET 4 (Roll No.18EGICS043-18EGICS057 and Roll No.18EGICS099-18EGICS111 AND Diploma Students)

Ques 1(a). Explain Polymorphism. Describe how its achieved at compile time(Function Overloading and Operator Overloading) and run time(Virtual Function). Explain both with help of example. **(RTU 2017, 2016, 2014, 2011, 2010)**

Ques 1(b). Explain overloading stream functions with suitable example. **(RTU 2011)**

Ques 2 Write a C++ Program which implements "= =" binary operator. The overload class should contain one parameterised constructor to initialize default value to the member variable and a display function to display value of member variable. **(RTU 2018)**

UNIT –V (CO$_{23406.5}$)

Date of Assignment given: 14/10/19(A)
10/10/19(B)

Date of Submission:19/10/19(A)
16/10/19(B)

SET 1 (Roll No.18EGICS001-18EGICS015 and Roll No.18EGICS059-18EGICS072)

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Ques 1(a). Explain Exception Handling with its mechanism in detail. Explain try, throw and catch constructs used in C++ with their syntax and example. **(RTU 2017, 2015, 2014, 2011, 2010)**

Ques 1(b). Write a template function that returns the average of all the elements of an array. The arguments to the function should be the array name and size of the array (type int). In main excercise the function with arrays of type int, long, double and char. **(RTU 2018)**

Ques 2 Write a C++ program using File Handling to perform the following operations:-

- i) A file named "data.txt" contains numbers from 0-100. Open the "data.txt" file in read mode.
- ii) Read data from "data.txt" file.
- iii) If the number is odd, open a new file named "odd.txt" and write the odd number into "odd.txt" file.
- iv) If the number is even, open a new file named "even.txt" and write the odd number into "odd.txt" file.
- v) Display the data of all the files. **(RTU 2018)**

SET 2 (Roll No.18EGICS016-18EGICS028 and Roll No.18EGICS073-18EGICS085)

Ques 1(a). Explain Template Class and Template Function. Explain how it supports generic Programming. Write a program to implement swapping using templates. **(RTU 2018, 2017, 2016, 2015, 2014, 2013, 2011,2010)**

Ques 1(b). Explain Run-Time Error, Logical Error and Syntax Error. **(RTU 2018)**

Ques 2 Handle the following exceptions to input two integers from keyboard to perform division operation

i)A Try Block to throw an exception when a wrong type of data is entered.

ii) When division by zero occurs

Write appropriate catch block to handle above exceptions which are thrown from "throw" block.
(RTU 2018)

SET 3 (Roll No.18EGICS029-18EGICS042 and Roll No.18EGICS086-18EGICS098)

Ques 1(a). Explain C++ Stream Classes in detail with example.

Ques 1(b). Explain the difference between Error and Exception. Explain the keywords used in Exception Handling. **(RTU 2016)**

Ques 2 Write a program to implement sorting using templates. **(RTU 2018, 2013, 2010)**

SET 4 (Roll No.18EGICS043-18EGICS057 and Roll No.18EGICS099-18EGICS111 AND Diploma Students)

Ques 1(a). Explain File Handling with its advantages. Explain opening of file with the help of constructor and open function.

Ques 1(b). Explain try, catch and throw constructs used in C++ with their syntax. **(RTU 2013)**

Ques 2. Write a program to implement searching using templates.

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Mid Term Exam – I
Question Paper

GEETANJALI INSTITUTE OF TECHNICAL STUDIES
COMPUTER SCIENCE AND ENGINEERING
I INTERNAL EXAMINATION
II YEAR III SEMESTER SECTION A AND B
3CS4-06 OBJECT ORIENTED PROGRAMMING

Maximum Marks-24   **Time-1:30 Hours**

Q.No.	Question	Marks	BL	CO
	PART A(Compulsory)			
Q.1	Define uses of Scope Resolution Operator(::) .	1	1	CO23406.1
Q.2	Define Access Specifiers in C++.	1	1	CO23406.1
Q.3	Define Function Overloading.	1	1	CO23406.2
Q.4	Give differences between inline functions and macros.	1	4	CO23406.2
Q.5	Define Multiple Inheritance.	1	1	CO23406.3
	PART B (Attempt Three out of Four)			
Q.6	Describe the mechanism of accessing data members and member functions in the following case:- (i) inside the main program. (ii) Inside the member function of the same class.	3	2,3	CO23406.1
Q.7	Create a structure to specify data of customers in a bank. The data to be stored is:-Account number, Name , Balance in account. Assume maximum of 20 customers in the bank:- (i)Write a function to print the account number and name of each customer with balance below Rs 100. (ii) If a customer request for withdrawl or deposit, it is given in the form:- Acct.no, amount,code {1 for deposit, 0 for withdrawl}. Write a C++ program to give the message,"The balance is insufficient for specified withdrawl".	3	3	CO23406.1
Q.8	Explain mechanism of accessing a private data member of the class from a non-member function and justify it with a program in C++ to swap private data members of two classes. Also discuss the characteristics and need of the mechanism.	3	2,3	CO23406.2

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Q.9	Explain the concept of references in C++ with its applications. Design a C++ program to swap two numbers using call by reference.	3	2,3	CO23406.2
	PART C (Attempt Two out of Three)			
Q.10	Explain all the concepts of Object Oriented Programming.	5	2	CO23406.1
Q.11	Explain Constructors with characteristics, types, syntax and examples. Also explain Destructor with example.	5	2	CO23406.2
Q.12	Explain Inheritance with its advantages and types. Explain each type with an example. Explain different inheritance Visibility Modifiers supported by C++.	5	2	CO23406.3
	ALL THE BEST			

BL – Bloom's Taxonomy Levels (1- Remembering, 2- Understanding, 3 – Applying, 4 – Analyzing, 5 – Evaluating, 6 - Creating)

CO – Course Outcomes

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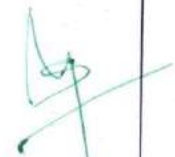
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Marks and Identification of Slow Learners of Mid-Term I

S.No.	University Roll No.	Name of Student	Mid-Term 1 MM-	Remedial Classes needed or not – Y/N*
1	18EGICS001	AAKANKSHA SAMOTA	24	N
2	18EGICS002	ABDUL QADIR	23	N
3	18EGICS003	ABHISHEK LAKSHKAR	20	N
4	18EGICS004	ABHISHEK SOLANKI	22	N
5	18EGICS006	AMAN THAKUR	23	N
6	18EGICS007	AMISHA SONI	20	N
7	18EGICS008	AMIT SUTHAR	21	N
8	18EGICS009	AMRITESH SAINI	20	N
9	18EGICS011	ANJALI VYAS	24	N
10	18EGICS012	ANSH KUMAR SONI	23	N
11	18EGICS013	ANUBHUTI JHA	24	N
12	18EGICS014	ARYAN DADHEECH	24	N
13	18EGICS015	ATUL SUTHAR	23	N
14	18EGICS016	AYUSH YADAV	22	N
15	18EGICS017	AYUSHMAAN PATEL	23	N
16	18EGICS018	BHAVIKA RAJORA	21	N
17	18EGICS019	BHAVUK SETH	22	N
18	18EGICS020	BHAVYA SONI	24	N
19	18EGICS021	BHOWMICK VYAS	21	N
20	18EGICS023	CHIRAG NENWA	23	N
21	18EGICS024	DALPAT I	23	N
22	18EGICS025	DARSHAN SHRIMALI	24	N
23	18EGICS026	DINESH KUMAR	21	N

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24	18EGICS027	DIVYA SONI	23	N
25	18EGICS028	GARIMA SONI	23	N
26	18EGICS029	GYANENDRA KUMAR	24	N
27	18EGICS030	HARSHIT PALIWAL	21	N
28	18EGICS031	HARSHITA JAIN	24	N
29	18EGICS032	HARSHITA SINGHVI	22	N
30	18EGICS034	HIMANSHI PALIWAL	23	N
31	18EGICS035	HITESH VAGHELA	22	N
32	18EGICS036	HRITIK KOTHARI	20	N
33	18EGICS037	HRITTVIK GUPTA	24	N
34	18EGICS038	JAYA SISODIYA	23	N
35	18EGICS039	JINKAL NAGDA	23	N
36	18EGICS040	JYOTI ATOLIYA	22	N
37	18EGICS041	KANAKLATA SHAKTAWAT	19	Y
38	18EGICS042	KAPIL RAJPAL	22	N
39	18EGICS043	KARTIK AGARWAL	22	N
40	18EGICS044	KASHISH JOSHI	21	N
41	18EGICS046	KRISHNAPAL SINGH DEORA	24	N
42	18EGICS047	KRISHNAVEER SINGH	24	N
43	18EGICS048	KRITARTH KUMAR JHA	23	N
44	18EGICS049	KUSHAL RAJPAL	23	N
45	18EGICS050	LAKSHYARAJ SINGH DALAWAT	22	N
46	18EGICS051	LOKESH BHATT	22	N
47	18EGICS052	LOVISHA JAIN	24	N
48	18EGICS053	MANDEEP JAIN	21	N
49	18EGICS055	MOHAMMAD ADNAN SHEIKH	22	N

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50	18EGICS056	MOHIT SONI	20	N
51	18EGICS057	MOKSHIKA KOTHARI	23	N
52	18EGICS059	NISHITA RAWAT	24	N
53	18EGICS060	PAYAL MANGHNANI	21	N
54	18EGICS061	PRAFULL RAJ SONI	20	N
55	18EGICS062	PRAJAPATI DIPAK SHANTILAL	22	N
56	18EGICS063	PRAJAPATI OMPRAKASH HEMARAJBHAI	22	N
57	18EGICS064	PRANJAL NATHANIEL	19	Y
58	18EGICS065	PRATHAM SWARNKAR	21	N
59	18EGICS067	PRIYA JAWARIYA	23	N
60	18EGICS068	PRIYAL SONI	20	N
61	18EGICS069	PRIYANSH K SAKARWAL	20	N
62	18EGICS070	PRIYANSHA LODHA	21	N
63	18EGICS071	PRIYANSHU SANKHALA	24	N
64	18EGICS072	PRIYASH GARG	20	N
65	18EGICS073	PURVA DINESH VIJAYVARGIYA	23	N
66	18EGICS074	PURVA SONI	22	N
67	18EGICS075	PURVI AGRAWAL	22	N
68	18EGICS076	RAGHVENDRA SINGH	21	N
69	18EGICS078	RAUNAK BHANAWAT	21	N
70	18EGICS079	REDDY SURYA MANOJ	21	N
71	18EGICS080	RITIK NANAWATI	24	N
72	18EGICS081	RITVIKA NAIR	21	N
73	18EGICS082	RIYA AGARWAL	24	N
74	18EGICS083	ROHAN SHARMA	22	N
75	18EGICS084	RONAK ISRANI	21	N

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76	18EGICS085	RONAK RATHORE	20	N
77	18EGICS086	SANDHYA KUNWAR SISODIYA	21	N
78	18EGICS087	SEJAL RATHOR	22	N
79	18EGICS088	SHOAIB KHAN	20	N
80	18EGICS089	SHUBHAM MATHUR	21	N
81	18EGICS090	SHUBHAM SONI	24	N
82	18EGICS091	SONA AMETA	23	N
83	18EGICS092	SOURAV PALIWAL	20	N
84	18EGICS093	TANAY SHARMA	21	N
85	18EGICS094	TANMAY MATHUR	24	N
86	18EGICS095	TANMAY PALIWAL	21	N
87	18EGICS096	TUSHAR KUMAR PRAJAPATI	22	N
88	18EGICS097	TWINKLE JANWA	24	N
89	18EGICS098	UMESH JOSHI	23	N
90	18EGICS100	VARSHA PALIWAL	21	N
91	18EGICS101	VEER BHADRA SINGH SOLANKI	23	N
92	18EGICS102	VIDHYANSHI KHETPALIYA	22	N
93	18EGICS103	VIKAS SHARMA	21	N
94	18EGICS104	VIPLOV JIWNANI	24	N
95	18EGICS105	VISHESH VYAS	22	N
96	18EGICS106	YASH RAJ SINGH CHOUHAN	24	N
97	18EGICS107	YASH RAJ SINGH NARUKA	23	N
98	18EGICS108	YASH SEN	23	N
99	18EGICS109	YASH SONI	21	N
100	18EGICS110	YASHASVEE BASOTIA	24	N
101	18EGICS111	YOGESH KUMAR SUTHAR	20	N

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Name of faculty: Ms. Charu Kavadia

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DABOK, UDAIPUR, RAJASTHAN 313022

102	D2D	AAKANSHA DUBEY	NA	N
103	D2D	KUNAL MALVI	NA	N
104	D2D	RATAN SINGH	NA	N
105	D2D	SACHIN TOLLANI	NA	N
106	D2D	VRASHABH PURBIA	NA	N

Signature of Faculty :

Signature of HOD

Geetanjali Institute of Technical Stu.
Dabok, UDAIPUR-313022 (Raj.)

Name of faculty: Ms. Charu Kavadia

Subject with Code: Object Oriented Programming 3CS4-06

NBA CODE: C23406

Teacher's Record Book

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Remedial Action Taken for Slow Learners (After Mid- Term 1)

S.No.	University Roll no.	Name of Student	Topics to be discussed in Remedial Class	Schedule Date of Remedial Class	Outcome
1	18EGICS041	KANAKLATA SHAKTAWAT	Class and Objects, Constructors and Destructors, ,Friend Functions, References, Inheritance	3/9/19 & 4/9/19	$CO_{23406.1}$, $CO_{23406.2}$, $CO_{23406.3}$
2	18EGICS064	PRANJAL NATHANIEL	Class and Objects, Constructors and Destructors, ,Friend Functions, References, Inheritance	3/9/19 & 4/9/19	$CO_{23406.1}$, $CO_{23406.2}$, $CO_{23406.3}$

Signature of Faculty :

Signature of HOD

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Mid Term Exam – II
Question Paper

GEETANJALI INSTITUTE OF TECHNICAL STUDIES
COMPUTER SCIENCE AND ENGINEERING
I INTERNAL EXAMINATION
II YEAR III SEMESTER SECTION A AND B
3CS4-06 OBJECT ORIENTED PROGRAMMING

Maximum Marks-24   **Time-1:30 Hours**

Q.No.	Question	Marks	BL	CO
	PART A(Compulsory)			
Q.1	Define Abstract Classes with its need.	1	1	CO23406.3
Q.2	Define limitation of overloading unary increment/decrement postfix/Prefix operator in a single program.	1	1	CO23406.4
Q.3	Define Virtual Function and its need.	1	1	CO23406.4
Q.4	Define C++ Stream classes.	1	1	CO23406.5
Q.5	Define various File opening modes.	1	1	CO23406.5
	PART B (Attempt Three out of Four)			
Q.6	Explain Static Data Members and Member Functions with their properties. Also write a program to count number of objects created for a particular class using static data member.	3	2	CO23406.4
Q.7	Write a program to make a class named "String" which uses concept of operator overloading to concatenate two strings by + operator.	3	3	CO23406.4
Q.8	Explain Template Class and Template Function. Explain how it supports Generic Programming. Write a program to implement swapping using Templates.	3	2,3	CO23406.5
Q.9	Explain File Handling with its advantages. Explain opening of file with the help of constructor and open function with example. Write a program to write n number of employees data supplied by a user in a file and read it again from the file and display on the screen	3	2,3	CO23406.5
	PART C (Attempt Two out of Three)			
Q.10	Explain Virtual Base Class. Explain why we make a class Virtual. Explain with example.	5	2	CO23406.3

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Q.11	Explain Operator Overloading with its need, syntax, restrictions and limitations. Explain the process of overloading Unary and Binary Operators with member functions as well as friend functions with examples.	5	2	CO23406.4
Q.12	Explain types of exceptions and Exception Handling mechanism in detail with their syntax and example.	5	2	CO23406.5
	ALL THE BEST			

BL – Bloom's Taxonomy Levels (1- Remembering, 2- Understanding, 3 – Applying, 4 – Analyzing, 5 – Evaluating, 6 - Creating)

CO – Course Outcomes

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Marks and Identification of Slow Learners of Mid-Term II

S.No.	University Roll No.	Name of Student	Mid-Term II MM-24	Remedial Classes needed or not – Y/N*
1	18EGICS001	AAKANKSHA SAMOTA	23	N
2	18EGICS002	ABDUL QADIR	22	N
3	18EGICS003	ABHISHEK LAKSHKAR	19	Y
4	18EGICS004	ABHISHEK SOLANKI	21	N
5	18EGICS006	AMAN THAKUR	22	N
6	18EGICS007	AMISHA SONI	19	Y
7	18EGICS008	AMIT SUTHAR	20	N
8	18EGICS009	AMRITESH SAINI	19	Y
9	18EGICS011	ANJALI VYAS	23	N
10	18EGICS012	ANSH KUMAR SONI	22	N
11	18EGICS013	ANUBHUTI JHA	23	N
12	18EGICS014	ARYAN DADHEECH	23	N
13	18EGICS015	ATUL SUTHAR	22	N
14	18EGICS016	AYUSH YADAV	21	N
15	18EGICS017	AYUSHMAAN PATEL	22	N
16	18EGICS018	BHAVIKA RAJORA	20	N
17	18EGICS019	BHAVUK SETH	21	N
18	18EGICS020	BHAVYA SONI	23	N
19	18EGICS021	BHOWMICK VYAS	20	N
20	18EGICS023	CHIRAG NENWA	22	N
21	18EGICS024	DALPAT I	22	N
22	18EGICS025	DARSHAN SHRIMALI	23	N
23	18EGICS026	DINESH KUMAR	20	N

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24	18EGICS027	DIVYA SONI	22	N
25	18EGICS028	GARIMA SONI	22	N
26	18EGICS029	GYANENDRA KUMAR	23	N
27	18EGICS030	HARSHIT PALIWAL	20	N
28	18EGICS031	HARSHITA JAIN	23	N
29	18EGICS032	HARSHITA SINGHVI	21	N
30	18EGICS034	HIMANSHI PALIWAL	22	N
31	18EGICS035	HITESH VAGHELA	21	N
32	18EGICS036	HRITIK KOTHARI	19	Y
33	18EGICS037	HRITTVIK GUPTA	23	N
34	18EGICS038	JAYA SISODIYA	22	N
35	18EGICS039	JINKAL NAGDA	22	N
36	18EGICS040	JYOTI ATOLIYA	21	N
37	18EGICS041	KANAKLATA SHAKTAWAT	18	Y
38	18EGICS042	KAPIL RAJPAL	21	N
39	18EGICS043	KARTIK AGARWAL	21	N
40	18EGICS044	KASHISH JOSHI	20	N
41	18EGICS046	KRISHNAPAL SINGH DEORA	23	N
42	18EGICS047	KRISHNAVEER SINGH	23	N
43	18EGICS048	KRITARTH KUMAR JHA	22	N
44	18EGICS049	KUSHAL RAJPAL	22	N
45	18EGICS050	LAKSHYARAJ SINGH DALAWAT	21	N
46	18EGICS051	LOKESH BHATT	21	N
47	18EGICS052	LOVISHA JAIN	23	N
48	18EGICS053	MANDEEP JAIN	20	N
49	18EGICS055	MOHAMMAD ADNAN SHEIKH	21	N

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50	18EGICS056	MOHIT SONI	19	Y
51	18EGICS057	MOKSHIKA KOTHARI	22	N
52	18EGICS059	NISHITA RAWAT	23	N
53	18EGICS060	PAYAL MANGHNANI	20	N
54	18EGICS061	PRAFULL RAJ SONI	19	Y
55	18EGICS062	PRAJAPATI DIPAK SHANTILAL	21	N
56	18EGICS063	PRAJAPATI OMPRAKASH HEMARAJBHAI	21	N
57	18EGICS064	PRANJAL NATHANIEL	18	Y
58	18EGICS065	PRATHAM SWARNKAR	20	N
59	18EGICS067	PRIYA JAWARIYA	22	N
60	18EGICS068	PRIYAL SONI	19	Y
61	18EGICS069	PRIYANSH K SAKARWAL	19	Y
62	18EGICS070	PRIYANSHA LODHA	20	N
63	18EGICS071	PRIYANSHU SANKHALA	23	N
64	18EGICS072	PRIYASH GARG	19	Y
65	18EGICS073	PURVA DINESH VIJAYVARGIYA	22	N
66	18EGICS074	PURVA SONI	21	N
67	18EGICS075	PURVI AGRAWAL	21	N
68	18EGICS076	RAGHVENDRA SINGH	20	N
69	18EGICS078	RAUNAK BHANAWAT	20	N
70	18EGICS079	REDDY SURYA MANOJ	20	N
71	18EGICS080	RITIK NANAWATI	24	N
72	18EGICS081	RITVIKA NAIR	20	N
73	18EGICS082	RIYA AGARWAL	24	N
74	18EGICS083	ROHAN SHARMA	21	N
75	18EGICS084	RONAK ISRANI	20	N

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76	18EGICS085	RONAK RATHORE	19	Y
77	18EGICS086	SANDHYA KUNWAR SISODIYA	20	N
78	18EGICS087	SEJAL RATHOR	21	N
79	18EGICS088	SHOAIB KHAN	19	Y
80	18EGICS089	SHUBHAM MATHUR	20	N
81	18EGICS090	SHUBHAM SONI	23	N
82	18EGICS091	SONA AMETA	22	N
83	18EGICS092	SOURAV PALIWAL	19	Y
84	18EGICS093	TANAY SHARMA	20	N
85	18EGICS094	TANMAY MATHUR	23	N
86	18EGICS095	TANMAY PALIWAL	20	N
87	18EGICS096	TUSHAR KUMAR PRAJAPATI	21	N
88	18EGICS097	TWINKLE JANWA	23	N
89	18EGICS098	UMESH JOSHI	22	N
90	18EGICS100	VARSHA PALIWAL	20	N
91	18EGICS101	VEER BHADRA SINGH SOLANKI	22	N
92	18EGICS102	VIDHYANSHI KHETPALIYA	21	N
93	18EGICS103	VIKAS SHARMA	20	N
94	18EGICS104	VIPLOV JIWNANI	23	N
95	18EGICS105	VISHESH VYAS	21	N
96	18EGICS106	YASH RAJ SINGH CHOUHAN	23	N
97	18EGICS107	YASH RAJ SINGH NARUKA	22	N
98	18EGICS108	YASH SEN	22	N
99	18EGICS109	YASH SONI	20	N
100	18EGICS110	YASHASVEE BASOTIA	23	N
101	18EGICS111	YOGESH KUMAR SUTHAR	19	Y

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102	D2D	AAKANSHA DUBEY	23	N
103	D2D	KUNAL MALVI	23	N
104	D2D	RATAN SINGH	23	N
105	D2D	SACHIN TOLLANI	22	N
106	D2D	VRASHABH PURBIA	21	N

*(Y, if obtained marks are <20)

Signature of Faculty :

Signature of HOD :

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Remedial Action Taken for Slow Learners (After Mid- Term II)

S.No.	University Roll no.	Name of Student	Topics to be discussed in Remedial Class	Schedule Date of Remedial Class	Course Outcome
1.	18EGICS003	ABHISHEK LAKSHKAR	Abstract Class, Virtual Base Class, Operator Overloading, Run Time Polymorphism, Template, File Handling ,Exception Handling	21/11/19 & 22/11/19	**CO23406.3, CO23406.4, CO23406.5**
2.	18EGICS007	AMISHA SONI	Abstract Class, Virtual Base Class, Operator Overloading, Run Time Polymorphism, Template, File Handling ,Exception Handling	21/11/19 & 22/11/19	**CO23406.3, CO23406.4, CO23406.5**
3.	18EGICS009	AMRITESH SAINI	Abstract Class, Virtual Base Class, Operator Overloading, Run Time Polymorphism, Template, File Handling ,Exception Handling	21/11/19 & 22/11/19	**CO23406.3, CO23406.4, CO23406.5**
4.	18EGICS036	HRITIK KOTHARI	Abstract Class, Virtual Base Class, Operator Overloading, Run Time Polymorphism, Template, File Handling ,Exception Handling	21/11/19 & 22/11/19	**CO23406.3, CO23406.4, CO23406.5**
5.	18EGICS041	KANAKLATA SHAKTAWAT	Abstract Class, Virtual Base Class, Operator Overloading, Run Time Polymorphism, Template, File Handling ,Exception Handling	21/11/19 & 22/11/19	**CO23406.3, CO23406.4, CO23406.5**
6.	18EGICS056	MOHIT SONI	Abstract Class, Virtual Base Class, Operator Overloading, Run Time Polymorphism,	21/11/19 &	**CO23406.3, CO23406.4, CO23406.5**

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			Template, File Handling ,Exception Handling	22/11/19	
7.	18EGICS061	PRAFULL RAJ SONI	Abstract Class, Virtual Base Class, Operator Overloading, Run Time Polymorphism, Template, File Handling ,Exception Handling	21/11/19 & 22/11/19	CO23406.3, CO23406.4, CO23406.5
8.	18EGICS064	PRANJAL NATHANIEL	Abstract Class, Virtual Base Class, Operator Overloading, Run Time Polymorphism, Template, File Handling ,Exception Handling	21/11/19 & 22/11/19	CO23406.3, CO23406.4, CO23406.5
9.	18EGICS068	PRIYAL SONI	Abstract Class, Virtual Base Class, Operator Overloading, Run Time Polymorphism, Template, File Handling ,Exception Handling	21/11/19 & 22/11/19	CO23406.3, CO23406.4, CO23406.5
10.	18EGICS069	PRIYANSH K SAKARWAL	Abstract Class, Virtual Base Class, Operator Overloading, Run Time Polymorphism, Template, File Handling ,Exception Handling	21/11/19 & 22/11/19	CO23406.3, CO23406.4, CO23406.5
11.	18EGICS072	PRIYASH GARG	Abstract Class, Virtual Base Class, Operator Overloading, Run Time Polymorphism, Template, File Handling ,Exception Handling	21/11/19 & 22/11/19	CO23406.3, CO23406.4, CO23406.5
12.	18EGICS085	RONAK RATHORE	Abstract Class, Virtual Base Class, Operator Overloading, Run Time Polymorphism, Template, File Handling ,Exception	21/11/19 & 22/11/19	CO23406.3, CO23406.4, CO23406.5

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			Handling			
13.	18EGICS088	SHOAIB KHAN	Abstract Class, Virtual Base Class, Operator Overloading, Run Time Polymorphism, Template, File Handling ,Exception Handling	21/11/19 & 22/11/19		CO23406.3, CO23406.4, CO23406.5
14.	18EGICS092	SOURAV PALIWAL	Abstract Class, Virtual Base Class, Operator Overloading, Run Time Polymorphism, Template, File Handling ,Exception Handling	21/11/19 & 22/11/19		CO23406.3, CO23406.4, CO23406.5
15.	18EGICS111	YOGESH KUMAR SUTHAR	Abstract Class, Virtual Base Class, Operator Overloading, Run Time Polymorphism, Template, File Handling ,Exception Handling	21/11/19 & 22/11/19		CO23406.3, CO23406.4, CO23406.5

Signature of Faculty :

Signature of HOD :

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Model Question Paper with Key Solution

Q.No.	Question	Marks	CO
	PART A(Compulsory)		
Q.1	Define uses of Scope Resolution Operator(::) .	2	CO23406.1
Ans	Scope resolution operator (::) in C++ programming language is used to:- a)To define a function outside a class. b)When we want to use a global variable but also has a local variable with the same name.		
Q.2	Define Access Specifiers in C++.	2	CO23406.1
Ans	**Access Specifiers:-** Access modifiers or Access Specifiers in a class are used to set the accessibility of the class members. That is, it sets some restrictions on the class members not to get directly accessed by the outside functions. **Types of Access Specifiers** a)Public - The members declared as Public are accessible from outside the Class through an object of the class. b)Protected - The members declared as Protected are accessible from outside the class BUT only in a class derived from it. c)Private - These members are only accessible from within the class.		
Q.3	Define Function Overloading.	2	CO23406.2
Ans	C++ allows you to specify more than one definition for a function name in the same scope, which is called function overloading. It is a type of Compile Time Polymorphism.		
Q.4	Give differences between inline functions and macros.	2	CO23406.2
Ans	The basic differences between inline and macro are:- 1)An inline functions are parsed by the compiler whereas, the macros in a program are expanded by preprocessor. 2)The keyword used to define an inline function is "inline" whereas, the keyword used to define a macro is "#define".		

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Q.5	Define Multiple Inheritance.	2	CO23406.3
Ans	Multiple inheritance is a feature of some object-oriented computer programming languages in which an object or class can inherit characteristics and features from more than one parent object or parent class.		
Q.6	Define Virtual Base Class and its need.	2	CO23406.3
Ans	**Definition and Need:-**When two or more objects are derived from a common base class, we can prevent multiple copies of the base class being present in an object derived from those objects by declaring the base class as virtual when it is being inherited. Such a base class is known as virtual base class. This can be achieved by preceding the base class' name with the word virtual.		
Q.7	Define Static data Member and Member Function with its need	2	CO23406.4
Ans	**Static Data Member:-**A static member is shared by all objects of the class, all static data is initialized to zero when the first object is created, if no other initialization is present. **Static Member Function:-**A static member function can only access static data member, other static member functions and any other functions from outside the class. **Need:-** By declaring a function member as static, we make it independent of any particular object of the class. A static member function can be called even if no objects of the class exist and the static functions are accessed using only the class name and the scope resolution operator :: .		
Q.8	Define Operator Overloading with the operators which cannot be overloaded.	2	CO23406.4
Ans	**Definition:-** In C++, we can make operators to work for user defined classes. This means C++ has the ability to provide the operators with a special meaning for a data type, this ability is known as operator overloading. For example, we can overload an operator '+' in a class like String so that we can concatenate two strings by just using +. **Operators which can't be overloaded:-** a) . (dot) b) ::		

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	c) ?:		
	d) sizeof		
Q.9	Define File opening with the help of constructors and open method.	2	CO23406.5
Ans	available (opened) for processing. Opening of files can be achieved in the following two ways : a) Using the constructor function of the stream class. Example:- ifstream fin("myfile", ios::in) ; The above given statement creates an object, fin, of input file stream. The object name is a user-defined name (i.e., any valid identifier name can be given). After creating the ifstream object fin, the file myfile is opened and attached to the input stream, fin. Now, both the data being read from myfile has been channelised through the input stream object. b) Using the function open(). Example:- ofstream fout("secret" ios::out) ; This would create an output stream, object named as fout and attach the file secret with it.		
Q.10	Define exceptions and their types.	2	CO23406.5
Ans	**Definition:-** An exception is a problem that arises during the execution of a program. A C++ exception is a response to an exceptional circumstance that arises while a program is running, such as an attempt to divide by zero. **Types of Exceptions:-** a) **Asynchronous Exception:-**Those errors that are caused by events beyond the control of the program are called Asynchronous Exceptions. Example-Keyboard Interrupt etc. b)**Synchronous Exception:-** Those errors that are caused by events beyond the control of the program are called Synchronous Exceptions. Example:- out of range index and overflow etc.		
	PART B (Attempt Five out of Seven)		
Q.11	Describe the mechanism of accessing data members and member	8	CO23406.1

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	functions in the following case:-		
	(i) inside the main program.		
	(ii) Inside the member function of the same class.		

Ans	**(i) inside the main program.**
	The mechanism of accessing data members and member functions in the following cases is done by using object and dot membership operator(but for that data members and member functions should be declared under public access specifier, else they can't be accessed in main program,i.e. outside class).
	
	Example:-
	
	class Cube
	
	{
	
	public:
	
	int side;
	
	int getVolume()
	
	{
	
	return side*side*side; //returns volume of cube
	
	}
	
	};
	
	int main()
	
	{
	
	Cube C1;
	
	C1.side=4; // setting side data member using object
	
	cout<< "Volume of cube C1 ="<< C1.getVolume(); //calling member
	
	return 0; function using
	
	} object
	(ii) Inside the member function of the same class.		

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A member function can be accessed by another member function(known as nesting of member function) of the same class using the syntax: functionName(Arguments);

A data member can be accessed inside a class' member function by just mentioning its name and by default that data member be of that object which has called that member function.

Example:-

```
class Student

{

private:    // private data member

int rollno;


public:    // public accessor and mutator functions

int getRollno()

{

return rollno;  // using data member inside a member function

}


void setRollno(int i)

{

rollno=i;    // using data member inside a member function

}


};


int main()

{

Student A;
```

	A.setRollno(1); //Rollno initialized to 1
	
	cout<< A.getRollno(); //Output will be 1
	
	return 0;
	
	}		

Q.12	Create a structure to specify data of customers in a bank. The data to be stored is:-Account number, Name , Balance in account. Assume maximum of 20 customers in the bank:- (i)Write a function to print the account number and name of each customer with balance below Rs 100. (ii) If a customer request for withdrawl or deposit, it is given in the form:- Acct.no, amount,code {1 for deposit, 0 for withdrawl}. Write a C++ program to give the message,"The balance is insufficient for specified withdrawl".	8	CO23406.1

Ans	```cpp
	#include<iostream>
	#include<conio.h>
	using namespace std;
	struct bank
	{
	int acc_no, balance;
	char name[50];
	void setData()
	{
	  cout<<"\nEnter account number";
	  cin>>acc_no;
	  cout<<"Enter Name";
	  cin>>name;
	  cout<<"Enter Balance";
	  cin>>balance;
	``		

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```cpp
}
void showData()
{
    if(balance<100)
    {
        cout<<"\n.......Customer details having balance less than 100 Rs........";
        cout<<"\nAccount No="<<acc_no;
        cout<<"\nName="<<name;
    }
}
void withdraw(int amount,int acnt)
{
    if(acc_no==acnt && (balance<=0 || balance<amount))
    {
        cout<<"\nThe balance is insufficient for specified withdrawal";
    }
    else if(acc_no==acnt && amount<balance)
    {
        balance=balance-amount;
        cout<<"\n"<<amount<<" is withdrawn.";
    }
}
void deposit(int amt,int acnt)
{
    if(acc_no==acnt)
```

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```cpp
        {
            balance=balance+amt;

            cout<<"\nRs. "<<amt<<"deposited in your account.";

            cout<<"\nAvailable balance is:"<<balance;

        }

    }

};

int main()

{

    int choice,amnt,i,acnt_no;

    bank bobj[20];

    cout<<"\nEnter customer's Details:";

    for(i=0;i<20;i++)

    {

        bobj[i].setData();

    }

    cout<<"\n\n.........Customer's Details are............";

    for(i=0;i<20;i++)

    {

        bobj[i].showData();

    }

//  clrscr();

    cout<<"\n\n\n\n...........Welcome.............";

    cout<<"\n\nPress: 0 for withdrawal/1 for Deposit.";

    cin>>choice;

    if(choice==0)
```

```cpp
        {
            cout<<"\nEnter amount to withdraw:";
            cin>>amnt;
            cout<<"\nEnter Account Number:";
            cin>>acnt_no;
            for(i=0;i<20;i++)
            {
              bobj[i].withdraw(amnt,acnt_no);
            }
        }
        else if(choice==1)
        {
            cout<<"\nEnter amount to deposit:";
            cin>>amnt;
            cout<<"\nEnter Account Number:";
            cin>>acnt_no;
            for(i=0;i<20;i++)
            {
              bobj[i].deposit(amnt,acnt_no);
            }
        }
        else
        {
            cout<<"\nWrong choice.";
        }
        }
```

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Q.13	Explain mechanism of accessing a private data member of the class from a non-member function and justify it with a program in C++ to swap private data members of two classes. Also discuss the characteristics and need of the mechanism.	8	CO23406.2
Ans	A **Friend Function** of a class is defined outside that class' scope but it has the right to access all private and protected members of the class. Even though the prototypes for friend functions appear in the class definition, friends are not member functions.		

Program in C++ to swap private data members of two classes:-

```cpp
#include <iostream.h>

#include <conio.h>

Using namespace std;

class b;

class a

{

int x;

public:

void assign(int t)

{

x =t;

}

void display()

{

cout<<"value of x is: "<<x<<endl;

}

friend void swap(a&,b&);

};

class b
```

```cpp
{
int y;
public:
void assign(int w)
{
y=w;
}
void display()
{
cout<<"value of y is: "<<y<<endl;
}
friend void swap(a&,b&);
};
void swap(a& c,b& d)
{
int temp;
temp =c.x;
c.x = d.y;
d.y = temp;
}
int main()
{
a n;
b m;
inta,b;
cout<<"enter x =";
cin>>a ;
cout<<"Enter y =";
```

	cin>>b;
	
	n.assign(a);
	
	m.assign(b);
	
	swap(n,m);
	
	n.display();
	
	m.display();
	
	getch();
	
	}		

Q.14	Explain the concept of references in C++ with its applications. Design a C++ program to swap two numbers using call by reference.	8	CO23406.2

Ans	**Reference Variables:-**A reference variable is an alias, that is, another name for an already existing variable. Once a reference is initialized with a variable, either the variable name or the reference name may be used to refer to the variable.
	
	Applications
	
	a)To create dummy variable.
	
	b)To pass arguments as reference in function.
	
	C++ program to swap two numbers using call by reference
	
	#include<iostream>
	
	using namespace std;
	
	void swap(int &,int &);
	
	int main()
	
	{
	
	int a,b;
	
	cout<<"Enter Value Of A:";
	
	cin>>a;		

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```
cout<<"Enter Value of B:";

cin>>b;

cout<<"Before swapping\nValue of A is "<<a<<"\nValue of B is "<<b;

swap(a,b);

cout<<"\nOutside function a0fter swapping\nValue of A
is"<<a<<"\nValue of B is"<<b;

}

void swap(int &a,int &b)

{

int c;

c=a;

a=b;

b=c;

cout<<"\nInside function after swapping\nValue of A is"<<a<<"\nValue
of B is"<<b;

}
```

Q.15	Explain Abstract classes with its example and its application.	8	CO23406.3
Ans	**Definition:-**Abstract Class is a class which contains atleast one Pure Virtual function in it.		

Need:-Abstract classes are used to provide an Interface for its sub classes. Classes inheriting an Abstract Class must provide definition to the pure virtual function, otherwise they will also become abstract class.

Characteristics of Abstract Class

1.   Abstract class cannot be instantiated, but pointers and refrences of Abstract class type can be created.

2.   Abstract class can have normal functions and variables along with a pure virtual function.

3.   Abstract classes are mainly used for Upcasting, so that its derived classes can use its interface.

4.   Classes inheriting an Abstract Class must implement all pure virtual functions, or else they will become Abstract too.

	cout<<"Enter Value of B:";
	
	 cin>>b;
	
	 cout<<"Before swapping\nValue of A is "<<a<<"\nValue of B is "<<b;
	
	 swap(a,b);
	
	 cout<<"\nOutside function a0fter swapping\nValue of A is"<<a<<"\nValue of B is"<<b;
	
	 }
	
	 void swap(int &a,int &b)
	
	 {
	
	 int c;
	
	 c=a;
	
	 a=b;
	
	 b=c;
	
	 cout<<"\nInside function after swapping\nValue of A is"<<a<<"\nValue of B is"<<b;
	
	 }			

Q.15	Explain Abstract classes with its example and its application.	8	CO23406.3
Ans	**Definition:-**Abstract Class is a class which contains atleast one Pure Virtual function in it. **Need:-**Abstract classes are used to provide an Interface for its sub classes. Classes inheriting an Abstract Class must provide definition to the pure virtual function, otherwise they will also become abstract class. **Characteristics of Abstract Class** 1. Abstract class cannot be instantiated, but pointers and refrences of Abstract class type can be created. 2. Abstract class can have normal functions and variables along with a pure virtual function. 3. Abstract classes are mainly used for Upcasting, so that its derived classes can use its interface. 4. Classes inheriting an Abstract Class must implement all pure virtual functions, or else they will become Abstract too.		

Pure Virtual Functions

Pure virtual Functions are virtual functions with no definition. They start with virtual keyword and ends with = 0. Here is the syntax for a pure virtual function,

virtual void f() = 0;

Example of Abstract Class

```
class Base        //Abstract base class
{
public:
virtual void show() = 0;        //Pure Virtual Function
};


class Derived:public Base
{
public:
void show()
{ cout << "Implementation of Virtual Function in Derived class"; }
};


int main()
{
Base obj;        //Compile Time Error
Base *b;
Derived d;
b = &d;
b->show();
}
```

Output :

Implementation of Virtual Function in Derived class

In the above example Base class is abstract, with pure virtual show() function, hence we cannot create object of base class.

| Q.16 | Write a C++ Program to make a class named "string" which uses concept of operator overloading to compare two strings by (==) operator. | 8 | CO23406.4 |
| Ans | #include<iostream> | | |

```cpp
#include<stdio.h>                    //used for gets()

#include<string.h>                   //used for strcmp()

using namespace std;
class String
{
    char str[20];
    public:
    void getdata()                   //function to read the string
    {

gets(str);
    }
    //operator function to overload comparison operator and compare two strings
    int operator ==(String s)
    {

if(!strcmp(str,s.str))
        return 1;
        return 0;
    }
};
main()
{
    String s1,s2;
```

	cout<<"Enter first string:";			
	s1.getdata();			
	cout<<"Enter second string:";			
	s2.getdata();			
	if(s1==s2) //here the operator function will be called			
	{			
	cout<<"nStrigs are Equaln";			
	}			
	else			
	{			
	cout<<"nStrings are Not Equaln";			
	}			
	return 0;			
	}			
Q.17	Explain try , throw and catch constructs used in C++ with their syntax. Write a program to deal with division by zero exception in C++.	8	CO23406.5	
Ans	An exception is a problem that arises during the execution of a program. A C++ exception is a response to an exceptional circumstance that arises while a program is running, such as an attempt to divide by zero. Exceptions provide a way to transfer control from one part of a program to another. C++ exception handling is built upon three keywords: **try, catch,** and **throw**. • **throw** – A program throws an exception when a problem shows up. This is done using a **throw** keyword.			

- **catch** – A program catches an exception with an exception handler at the place in a program where you want to handle the problem. The **catch** keyword indicates the catching of an exception.

- **try** – A **try** block identifies a block of code for which particular exceptions will be activated. It's followed by one or more catch blocks.

Assuming a block will raise an exception, a method catches an exception using a combination of the **try** and **catch** keywords. A try/catch block is placed around the code that might generate an exception. Code within a try/catch block is referred to as protected code, and the syntax for using try/catch as follows –

```
try {

  // protected code

} catch( ExceptionName e1 ) {

  // catch block

} catch( ExceptionName e2 ) {

  // catch block

} catch( ExceptionName eN ) {

  // catch block

}
```

We can list down multiple catch statements to catch different type of exceptions in case your try block raises more than one exception in different situations.

Throwing Exceptions

Exceptions can be thrown anywhere within a code block usingthrow statement. The operand of the throw statement determines a type for the exception and can be any expression and the type of the result of the expression determines the type of exception thrown.

Following is an example of throwing an exception when

dividing by zero condition occurs –

```
double division(int a, int b) {

  if( b == 0 ) {

    throw "Division by zero condition!";

  }.

  return (a/b);

}
```

Catching Exceptions

The catch block   following   the try block   catches   any exception. You can specify what type of exception you want to catch and this is determined by the exception declaration that appears in parentheses following the keyword catch.

```
try {

  //.protected code

} catch( ExceptionName e ) {

  // code to handle ExceptionName exception

}
```

Above code will catch an exception of ExceptionName type. If you want to specify that a catch block should handle any type of exception that is thrown in a try block, you must put an ellipsis, ..., between the parentheses enclosing the exception declaration as follows –

```
try {

  // protected code

} catch(...) {

  // code to handle any exception

}
```

Program which throws a division by zero exception and we

catch it in catch block.

```cpp
#include <iostream>

using namespace std;

double division(int a, int b) {
  if( b == 0 ) {
    throw "Division by zero condition!";
  }
  return (a/b);
}

int main () {
  int x = 50;
  int y = 0;
  double z = 0;

  try {
    z = division(x, y);
    cout << z << endl;
  } catch (const char* msg) {
    cerr << msg << endl;
  }

  return 0;
}
```

Because we are raising an exception of type const char*, so while catching this exception, we have to use const char* in catch block. If we compile and run above code, this would

produce the following result −

Division by zero condition!

	PART C (Attempt Four out of Five)		
Q.18	Explain all the concepts of Object Oriented Programming.	15	CO23406.1
Ans	**a) Class:** Class is a blueprint of data and functions or methods. Class does not take any space.		

a) Class: Class is a blueprint of data and functions or methods. Class does not take any space.

Syntax for class:

```
classclass_name
{
 private:
  //data members and member functions declarations
 public:
  //data members and member functions declarations
 protected:
  //data members and member functions declarations
};
```

Class is a user defined data type like structures and unions in C.

By default class variables are private but in case of structure it is public. in above example person is a class.

b)Encapsulation and Data abstraction: Wrapping up(combing) of data and functions into a single unit is known as encapsulation. The data is not accessible to the outside world and only those functions which are wrapping in the class can access it. This insulation of the data from direct access by the program is called data hiding or information hiding.

Data abstraction refers to, providing only needed information to the outside world and hiding implementation details. For example, consider a class Complex with public functions as getReal() and getImag(). We may implement the class as an array of size 2 or as two variables. The advantage of abstractions is, we can change implementation at any point, users of Complex class wont't be affected as out method interface remains same. Had our implementation be public, we would not have been able to change it.

c)Inheritance: inheritance is the process by which objects of one class acquire the properties of objects of another class. It supports the concept of hierarchical classification. Inheritance provides re usability. This means that we can add additional features to an existing class without modifying it.

d)Polymorphism: polymorphism means ability to take more than one form. An operation may exhibit different behaviors in different instances. The behavior depends upon the types of data used in the operation.
C++ supports operator overloading and function overloading. Operator overloading is the process of making an operator to exhibit

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	different behaviors in different instances is known as operator overloading. Function overloading is using a single function name to perform different types of tasks. Polymorphism is extensively used in implementing inheritance. **e)Dynamic Binding:** In dynamic binding, the code to be executed in response to function call is decided at runtime. C++ has virtual functions to support this. **f)Message Passing:** Objects communicate with one another by sending and receiving information to each other. A message for an object is a request for execution of a procedure and therefore will invoke a function in the receiving object that generates the desired results. Message passing involves specifying the name of the object, the name of the function and the information to be sent.			
Q.19	Explain Constructors with characteristics, types, syntax and examples. Also explain Destructor with example.	15	CO23406.2
Ans	**Constructors:-**A class constructor is a special member function of a class that is executed whenever we create new objects of that class. **Characterstics** a)A constructor will have exact same name as the class and it does not have any return type at all, not even void. b)Constructors can be very useful for setting initial values for certain member variables. **Types of Constructors and their Syntax** 1. Default constructor: classname() { } 2. Parameterized constructor: Classname(Argument list) {} 3. Copy Constructor: Classname(classname &referncevariable) {} **Destructor:-**A destructor is a special member function of a class that is executed whenever an object of it's class goes out of scope or whenever the delete expression is applied to a pointer to the object of that class. A destructor will have exact same name as the class prefixed with a			

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tilde (~) and it can neither return a value nor can it take any parameters. Destructor can be very useful for releasing resources before coming out of the program like closing files, releasing memories etc.

Example:

```
#include<iostream>

usingnamespace std;

classLine{

public:

void setLength(double len );

double getLength(void);

Line();// This is the constructor declaration

~Line();// This is the destructor: declaration

private:

double length;};

Line::Line(void){

  cout <<"Object is being created"<< endl;}Line::~Line(void){

  cout <<"Object is being deleted"<< endl;}voidLine::setLength(double len ){

  length = len;}

doubleLine::getLength(void){

return length;}

int main(){

Line line;

// set line length

  line.setLength(6.0);

  cout <<"Length of line : "<< line.getLength()<<endl;

return0;}
```

Q.20	Explain Inheritance with its advantages and types. Explain each type with an example. Explain different inheritance Visibility Modifiers supported by C++.	15	CO23406.3

Ans	

Inheritance:-Inheritance allows us to define a class in terms of another class, which makes it easier to create and maintain an application. This also provides an opportunity to reuse the code functionality and fast implementation time.

When creating a class, instead of writing completely new data members and member functions, the programmer can designate that the new class should inherit the members of an existing class. This existing class is called the baseclass, and the new class is referred as the derived class.

The idea of inheritance implements the is a relationship. For example, mammal IS-A animal, dog IS-A mammal hence dog IS-A animal as well and so on.

Base and Derived Classes

A class can be derived from more than one classes, which means it can inherit data and functions from multiple base classes. To define a derived class, we use a class derivation list to specify the base class(es). A class derivation list names one or more base classes and has the form —

class derived-class: access-specifier base-class

Where access-specifier is one of public, protected, or private, and base-class is the name of a previously defined class. If the access-specifier is not used, then it is private by default.

Consider a base class Shape and its derived class Rectangle as follows —

#include<iostream>

using namespace std;

```cpp
usingnamespace std;
classShape{
public:
void setWidth(int w){
    width = w;
}
void setHeight(int h){
```

```
        height = h;
    }
    protected:
    int width;
    int height;};
    classRectangle:publicShape{
    public:
    int getArea(){
    return(width * height);
    }};
    int main(void){
    RectangleRect;
    Rect.setWidth(5);
    Rect.setHeight(7);
      cout <<"Total area: "<<Rect.getArea()<< endl;
    return0;}
```

When the above code is compiled and executed, it produces the following result −

Total area: 35

Advantages of Inheritance

a) Reduce code redundancy.

b) Provides code reusability.

c) Reduces source code size and improves code readability.

d) Code is easy to manage and divided into parent and child classes.

e) Supports code extensibility by overriding the base class functionality within child classes.

```
        height = h;
    }
    protected:
    int width;
    int height;};
    classRectangle:publicShape{
    public:
    int getArea(){
    return(width * height);
    }};
    int main(void){
    RectangleRect;
    Rect.setWidth(5);
    Rect.setHeight(7);
      cout <<"Total area: "<<Rect.getArea()<< endl;
    return0;}
```

When the above code is compiled and executed, it produces the following result −

Total area: 35

Advantages of Inheritance

a) Reduce code redundancy.

b) Provides code reusability.

c) Reduces source code size and improves code readability.

d) Code is easy to manage and divided into parent and child classes.

e) Supports code extensibility by overriding the base class functionality within child classes.

Disadvantages of Inheritance

a) In Inheritance base class and child classes are tightly coupled. Hence If you change the code of parent class, it will get affects to the all the child classes.

b) In class hierarchy many data members remain unused and the memory allocated to them is not utilized. Hence affect performance of your program if you have not implemented inheritance correctly.

Types of Inheritance
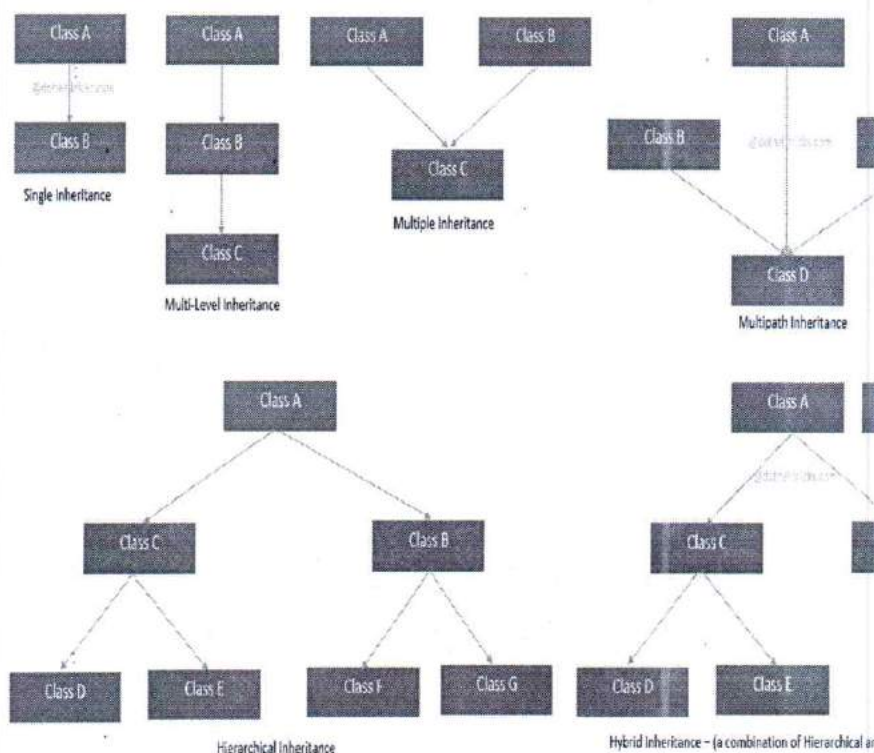
a) Single inheritance:-In this inheritance, a derived class is created from a single base class.

b) Multi-level inheritance:-In this inheritance, a derived class is created from another derived class.

c) Multiple inheritance:-In this inheritance, a derived class is created from more than one base class.

d) Multipath inheritance:-In this inheritance, a derived class is created from another derived classes and the same base class of

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	another derived classes.		
	e) Hierarchical inheritance:- This is combination of more than one inheritance. Hence, it may be a combination of Multilevel and Multiple inheritance or Hierarchical and Multilevel inheritance or Hierarchical and Multipath inheritance or Hierarchical, Multilevel and Multiple inheritance.		
	Visibility Modifier		
	When deriving a class from a base class, the base class may be inherited through public, protected or private inheritance. The type of inheritance is specified by the Visibility Modifier as explained below:-		
	Public Inheritance – When deriving a class from a public base class, public members of the base class become public members of the derived class and protected members of the base class become protected members of the derived class. A base class's privatemembers are never accessible directly from a derived class, but can be accessed through calls to the public and protected members of the base class.		
	Protected Inheritance – When deriving from a protected base class, public and protected members of the base class become protected members of the derived class.		
	Private Inheritance – When deriving from a private base class, public and protected members of the base class become privatemembers of the derived class.		
Q.21	Explain Run Time Polymorphism with its advantages. Explain Virtual Functions with its need , properties and example.	15	CO23406.4
Ans	**Run Time Polymorphism:-** In Late Binding function call is resolved at runtime. Hence, now compiler determines the type of object at runtime, and then binds the function call. Late Binding is also called **Dynamic** Binding or **Runtime** Binding or Run Time Polymorphism.		
	Virtual Function:- Virtual Function is a function in base class, which is overridden in the derived class, and which tells the compiler to perform Late Binding on this function.		
	Virtual Keyword is used to make a member function of the base class Virtual.		
	Properties of Virtual Function		
	1. They Must be declared in public section of class.		

2. Virtual functions cannot be static and also cannot be a friend function of another class.
3. Virtual functions should be accessed using pointer or reference of base class type to achieve run time polymorphism.
4. The prototype of virtual functions should be same in base as well as derived class.
5. They are always defined in base class and overridden in derived class. It is not mandatory for derived class to override (or re-define the virtual function), in that case base class version of function is used.
6. A class may have virtual destructor but it cannot have a virtual constructor.

Problem without Virtual Keyword

```cpp
class Base
{
public:
void show()
{
 cout << "Base class";
}
};
class Derived:public Base
{
public:
void show()
{
 cout << "Derived Class";
}
}


int main()
{
Base* b;       //Base class pointer
Derived d;     //Derived class object
b = &d;
b->show();     //Early Binding Ocuurs
```

```
}
```

Output : Base class

When we use Base class's pointer to hold Derived class's object, base class pointer or reference will always call the base version of the function

Using Virtual Keyword

We can make base class's methods virtual by using virtual keyword while declaring them. Virtual keyword will lead to Late Binding of that method.

```
class Base
{
public:
virtual void show()
{
 cout << "Base class";
}
};
class Derived:public Base
{
public:
void show()
{
 cout << "Derived Class";
}
}

int main()
{
Base* b;      //Base class pointer
Derived d;    //Derived class object
b = &d;
b->show();    //Late Binding Ocuurs
}
```

Output : Derived class

	On using Virtual keyword with Base class's function, Late Binding takes place and the derived version of function will be called, because base class pointer pointes to Derived class object.		
Q.22	Explain C++ stream classes in detail with examples. Explain File Opening modes in detail with example.	15	CO23406.5
Ans	A stream is a name given to a flow of data at the lowest level. At the lowest level, data is just the binary data without any notion of data type. Different streams are used to represent the different kinds of data flow such as whether data is flowing into the memory or out of the memory. Each stream is associated with a particular class, that contains the member functions and definitions for dealing with that particular kind of data flow. For instance, the ifstream class represents the input disk files. The stream that supplies data to the program is known as the input stream. It reads the data from the file and hands it over to the program. The stream that receives data from the program is known as output stream. It writes the received data to the file. The file I/O system of C++ contains a set of classes that define the file handling methods. These classes, designed to manage the disk files, are declared in the header file named fstream.h. Therefore, we must include this file in a program that works with files. The classes defined inside the header file, fstream.h, derive from the classes under the header file iostream.h, the header file that manages console I/O operations. Therefore, if you include the header file fstream.h in your file handling programs, you need not to include iostream.h header file as classes of fstream.h inherit from iostream.h only. The function of these classes have been summarized in the following table :		

Class	Functions

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filebuf	It sets the file buffers to read and write. It contains close() and open() member functions to it
fstreambase	This is the base class for fstream, ifstream and ofstream classes. Therefore, it provides operations common to these file streams. It also contains the functions open() and close()
ifstream	Being an input file stream class, it provides the input operations for file. It inherits the functions get(), getline(), read() and functions supporting random access (seekg() and tellg()) from istream class defined inside the header file iostream.h
ofstream	Being an output file stream class, it provides the output operations. It inherits the functions put() and write() along with functions supporting random access (seekp() and tellp()) from ostream class defined inside the header file iostream.h
fstream	It is an input-output file stream class. It provides support for the simultaneous input and output operations. It inherits all the functions from istream and ostream classes through the iostream class defined inside the header file iostream.h

C++ File Streams Example

Here is a simple example program related to C++ file stream. This programs only ask to enter the file name and then to enter a line to store the line in this file.

/* C++ File Streams */

```
#include<conio.h>

#include<fstream.h>

#include<stdlib.h>

void main()

{

        char inform[80];

        char fname[20];

        char ch;

        clrscr();
```

filebuf	It sets the file buffers to read and write. It contains close() and open() member functions to it
fstreambase	This is the base class for fstream, ifstream and ofstream classes. Therefore, it provides operations common to these file streams. It also contains the functions open() and close()
ifstream	Being an input file stream class, it provides the input operations for file. It inherits the functions get(), getline(), read() and functions supporting random access (seekg() and tellg()) from istream class defined inside the header file iostream.h
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fstream	It is an input-output file stream class. It provides support for the simultaneous input and output operations. It inherits all the functions from istream and ostream classes through the iostream class defined inside the header file iostream.h

C++ File Streams Example

Here is a simple example program related to C++ file stream. This programs only ask to enter the file name and then to enter a line to store the line in this file.

```
/* C++ File Streams */

#include<conio.h>

#include<fstream.h>

#include<stdlib.h>

void main()
{
    char inform[80];

    char fname[20];

    char ch;

    clrscr();
```

```cpp
        cout<<"Enter file name: ";

        cin.get(fname, 20);

        ofstream fout(fname, ios::out);


        if(!fout)

        {

                cout<<"Error in creating the file..!!\n";

                cout<<"Press any key to exit...\n";

                getch();

                exit(1);

        }

        cin.get(ch);


        cout<<"Enter a line to store in the file:\n";

        cin.get(inform, 80);

        fout<<inform<<"\n";


        cout<<"\nEntered informations successfully stored..!!\n";

        fout.close();

        cout<<"Press any key to exit...\n";

        getch();

}
```

ALL THE BEST

Name of faculty: Ms. Charu Kavadia

Subject with Code: Object Oriented Programming 3CS4-06

NBA CODE: C23406

GEETANJALI INSTITUTE OF TECHNICAL STUDIES

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DABOK, UDAIPUR, RAJASTHAN 313022

UNIVERSITY QUESTION PAPER (LAST ONE YEAR)

Roll No. _____

Total No of Pages: 4

3E1139

3E1139

B. Tech. III - Sem. (Main) Exam., Dec. - 2018
PCC Computer Science & Engineering
3CS4 – 06 Object Oriented Programming
CS, IT

Time: 3 Hours

Maximum Marks: 120

Instructions to Candidates:

Attempt all ten questions from Part A, selecting five questions from Part B and four questions from Part C.

Schematic diagrams must be shown wherever necessary. Any data you feel missing may suitably be assumed and stated clearly. Units of quantities used /calculated must be stated clearly.

Use of following supporting material is permitted during examination. (Mentioned in form No. 205)

1. NIL _____

2. NIL _____

PART – A

(Answer should be given up to 25 words only)   [10×2=20]
All questions are compulsory

Q.1 What is copy constructor? Explain with suitable example.

Q.2 What is the purpose of using overloading operators?

Q.3 What is the output of the program

```
#include<iostream.h>
void main()
{
  int n=1;
  cout<<endl<<"The numbers are;"<<endl;
  do
  {
    cout<<n<<"\t";
    n++;
  } while (n<=100);
  cout<<endl;
}
```

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Name of faculty: Ms. Charu Kavadia

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Teacher's Record Book

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Q.4 Name the operators which cannot overload. What is the significance of scope resolution operators (::)?

Q.5 What are the differences between class and structure in terms of memory allocation?

Q.6 What are the differences between member function of a class and friend function?

Q.7 What is Run-Time Error, Logical Error and Syntax Error?

Q.8 Write a C++ program to implement pure virtual function.

Q.9 What is the role of public, private and protected access specifiers within the class?

Q.10 Write a C++ program using function template to swap two values.

PART – B

(Analytical/Problem solving questions)   [5×8=40]
Attempt any five questions

Q.1 Write short notes on the following: [4×2=8]

    (a) Dynamic Binding

    (b) Abstract Class

    (c) New & delete

    (d) Function Overriding

Q.2 Design a class having the constructor and destructor functions that should display the number of objects being created or destroyed of class type.   [8]

Q.3 Write a template function that returns the average of all the elements of an array. The arguments to the function should be the array name and the size of the array (type int). In main (), exercise the function with arrays of type int, long, double, and char.   [8]

Q.4 Create a time class that includes integer member values for hours, minutes and seconds. Make a member function get_time() that gets a time value from the user, and a function put_time() that displays a time in 12:59:59 format. Add error checking to the get_time() function to minimize user mistakes. This function should request hours, minutes and seconds separately, and should check that the range should be in between 0 and 23, and minutes and seconds between 0 and 59.   [8]

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Q.5 Write an inline function, factorial (int x), which returns the factorial of value x. Test the function by reading values from the keyboard. [8]

Q.6 Use for loops to construct a program that displays a pyramid on the screen. The pyramid should look like this [8]

```
    1
   121
  12321
 1234321
123454321
```

Q.7 What do you mean by Programming Paradigm? Describe the concept of message passing in Object Oriented Programming. [8]

PART – C

(Descriptive/Analytical/Problem Solving/Design Questions) [4×15=60]

Attempt any four questions

Q.1 Write a C++ program which will implement '= =' binary operators. The overload class should contain one parameterized constructor to initialize default value to the member variable, and a display function to display value of member variables.

Q.2 Write C++ Program for the following statements.

(a) What do you mean by inheritance? Implement multilevel inheritance with suitable example.

(b) Write a C++ Program which will implement static function, friend function and member function of a class.

Q.3 Create a Class named "student" that contains roll_number, stu_name and course_name, father_name, DOB as data member and Input_student and display_student as member functions. Create A derived class named "exam" from the class named "student" with publicly inherited mode. The derived class contains members as mark1, mark2, mark3 as marks of three subjects and input_marks and display_results as member functions. Create an array of object of the "exam" class and display the result of 10 students.

[3E1139]   Page 3 of 4   [5690]

Name of faculty: Ms. Charu Kavadia

Subject with Code: Object Oriented Programming 3CS4-06

NBA CODE: C23406

Teacher's Record Book

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Attempt any four questions

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(a) What do you mean by inheritance? Implement multilevel inheritance with suitable example.

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[3E1139] Page 3 of 4 [5680]

Name of faculty: Ms. Charu Kavadia

Subject with Code: Object Oriented Programming 3CS4-06

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Q.4 Handle the following exceptions to input two integers from keyboard to perform division operation.

    (a)   A try block to throw an exception when a wrong type of data is entered.

    (b)   When division by zero occurs.

Write appropriate catch block to handle above exceptions which are thrown from "thrown block".

Q.5 Write a C++ program using file handling to perform the following operations.

    (a)   A file named 'data.txt' contains number from 0 to 100. Open the 'data.txt' file in read mode.

    (b)   Read data from 'data.txt' file.

    (c)   If the number is odd, open a new file named 'odd.txt' and write the odd number into 'odd.txt' file.

    (d)   If the number is even, open a new file named 'even.txt' and write the even number into 'even.txt' file.

    (e)   Display the data of all the files.

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DABOK, UDAIPUR, RAJASTHAN 313022

STUDENT PERFORMANCE REPORT

S. No.	University Roll No.	Student Name	Mid-Term -1 Marks 24	Mid-Term -2 Marks 24	Assignment Marks 6	Mid Term Average Marks + Assignment Marks (24+6=30)
1	18EGICS001	AAKANKSHA SAMOTA	24	23	6	30
2	18EGICS002	ABDUL QADIR	23	22	4	27
3	18EGICS003	ABHISHEK LAKSHKAR	20	19	5	25
	18EGICS004	ABHISHEK SOLANKI	22	21	5	27
5	18EGICS006	AMAN THAKUR	23	22	5	28
6	18EGICS007	AMISHA SONI	20	19	6	26
7	18EGICS008	AMIT SUTHAR	21	20	NS	21
8	18EGICS009	AMRITESH SAINI	20	19	5	25
9	18EGICS011	ANJALI VYAS	24	23	6	30
10	18EGICS012	ANSH KUMAR SONI	23	22	6	29
11	18EGICS013	ANUBHUTI JHA	24	23	5	29
12	18EGICS014	ARYAN DADHEECH	24	23	5	29
13	18EGICS015	ATUL SUTHAR	23	22	5	28
14	18EGICS016	AYUSH YADAV	22	21	5	27
15	18EGICS017	AYUSHMAAN PATEL	23	22	5	28
16	18EGICS018	BHAVIKA RAJORA	21	20	5	26
17	18EGICS019	BHAVUK SETH	22	21	5	27
18	18EGICS020	BHAVYA SONI	24	23	5	29
19	18EGICS021	BHOWMICK VYAS	21	20	5	26
20	18EGICS023	CHIRAG NENWA	23	22	5	28
21	18EGICS024	DALPAT I	23	22	5	28

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22	18EGICS025	DARSHAN SHRIMALI	24	23	4	28
23	18EGICS026	DINESH KUMAR	21	20	5	26
24	18EGICS027	DIVYA SONI	23	22	5	28
25	18EGICS028	GARIMA SONI	23	22	5	28
26	18EGICS029	GYANENDRA KUMAR	24	23	4	28
27	18EGICS030	HARSHIT PALIWAL	21	20	4	25
28	18EGICS031	HARSHITA JAIN	24	23	5	29
29	18EGICS032	HARSHITA SINGHVI	22	21	5	27
30	18EGICS034	HIMANSHI PALIWAL	23	22	5	28
31	18EGICS035	HITESH VAGHELA	22	21	5	27
32	18EGICS036	HRITIK KOTHARI	20	19	5	25
33	18EGICS037	HRITTVIK GUPTA	24	23	5	29
34	18EGICS038	JAYA SISODIYA	23	22	5	28
35	18EGICS039	JINKAL NAGDA	23	22	5	28
36	18EGICS040	JYOTI ATOLIYA	22	21	5	27
37	18EGICS041	KANAKLATA SHAKTAWAT	19	18	5	24
38	18EGICS042	KAPIL RAJPAL	22	21	5	27
39	18EGICS043	KARTIK AGARWAL	22	21	5	27
40	18EGICS044	KASHISH JOSHI	21	20	6	27
41	18EGICS046	KRISHNAPAL SINGH DEORA	24	23	6	30
42	18EGICS047	KRISHNAVEER SINGH	24	23	5	29
43	18EGICS048	KRITARTH KUMAR JHA	23	22	5	28
44	18EGICS049	KUSHAL RAJPAL	23	22	5	28
45	18EGICS050	LAKSHYARAJ SINGH DALAWAT	22	21	5	27
46	18EGICS051	LOKESH BHATT	22	21	5	27
47	18EGICS052	LOVISHA JAIN	24	23	5	29

Name of faculty: Ms. Charu Kavadia

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48	18EGICS053	MANDEEP JAIN	21	20	5	26
49	18EGICS055	MOHAMMAD ADNAN SHEIKH	22	21	5	27
50	18EGICS056	MOHIT SONI	20	19	5	25
51	18EGICS057	MOKSHIKA KOTHARI	23	22	5	28
52	18EGICS059	NISHITA RAWAT	24	23	6	30
53	18EGICS060	PAYAL MANGHNANI	21	20	5	26
54	18EGICS061	PRAFULL RAJ SONI	20	19	6	26
55	18EGICS062	PRAJAPATI DIPAK SHANTILAL	22	21	5	27
56	18EGICS063	PRAJAPATI OMPRAKASH HEMARAJBHAI	22	21	6	28
57	18EGICS064	PRANJAL NATHANIEL	19	18	5	24
58	18EGICS065	PRATHAM SWARNKAR	21	20	6	27
59	18EGICS067	PRIYA JAWARIYA	23	22	5	28
60	18EGICS068	PRIYAL SONI	20	19	6	26
61	18EGICS069	PRIYANSH K SAKARWAL	20	19	5	25
62	18EGICS070	PRIYANSHA LODHA	21	20	5	26
63	18EGICS071	PRIYANSHU SANKHALA	24	23	5	29
64	18EGICS072	PRIYASH GARG	20	19	6	26
	18EGICS073	PURVA DINESH VIJAYVARGIYA	23	22	5	28
66	18EGICS074	PURVA SONI	22	21	5	27
67	18EGICS075	PURVI AGRAWAL	22	21	5	27
68	18EGICS076	RAGHVENDRA SINGH	21	20	5	26
69	18EGICS078	RAUNAK BHANAWAT	21	20	5	26
70	18EGICS079	REDDY SURYA MANOJ	21	20	5	26
71	18EGICS080	RITIK NANAWATI	24	24	6	30
72	18EGICS081	RITVIKA NAIR	21	20	5	26
73	18EGICS082	RIYA AGARWAL	24	24	6	30

Name of faculty: Ms. Charu Kavadia

Subject with Code: Object Oriented Programming 3CS4-06

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74	18EGICS083	ROHAN SHARMA	22	21	5	27
75	18EGICS084	RONAK ISRANI	21	20	5	26
76	18EGICS085	RONAK RATHORE	20	19	5	25
77	18EGICS086	SANDHYA KUNWAR SISODIYA	21	20	5	26
78	18EGICS087	SEJAL RATHOR	22	21	5	27
79	18EGICS088	SHOAIB KHAN	20	19	5	25
80	18EGICS089	SHUBHAM MATHUR	21	20	5	26
81	18EGICS090	SHUBHAM SONI	24	23	5	29
82	18EGICS091	SONA AMETA	23	22	5	28
83	18EGICS092	SOURAV PALIWAL	20	19	5	25
84	18EGICS093	TANAY SHARMA	21	20	5	26
85	18EGICS094	TANMAY MATHUR	24	23	5	29
86	18EGICS095	TANMAY PALIWAL	21	20	5	26
87	18EGICS096	TUSHAR KUMAR PRAJAPATI	22	21	5	27
88	18EGICS097	TWINKLE JANWA	24	23	5	29
89	18EGICS098	UMESH JOSHI	23	22	4	27
90	18EGICS100	VARSHA PALIWAL	21	20	5	26
91	18EGICS101	VEER BHADRA SINGH SOLANKI	23	22	5	28
92	18EGICS102	VIDHYANSHI KHETPALIYA	22	21	5	27
93	18EGICS103	VIKAS SHARMA	21	20	5	26
94	18EGICS104	VIPLOV JIWNANI	24	23	5	29
95	18EGICS105	VISHESH VYAS	22	21	5	27
96	18EGICS106	YASH RAJ SINGH CHOUHAN	24	23	5	29
97	18EGICS107	YASH RAJ SINGH NARUKA	23	22	5	28
98	18EGICS108	YASH SEN	23	22	5	28
99	18EGICS109	YASH SONI	21	20	5	26

Name of faculty: Ms. Charu Kavadia

Subject with Code: Object Oriented Programming 3CS4-06

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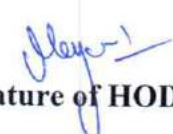
100	18EGICS110	YASHASVEE BASOTIA	24	23	5	29
101	18EGICS111	YOGESH.KUMAR SUTHAR	20	19	5	25
102	D2D	AAKANSHA DUBEY	NA	23	5	28
103	D2D	KUNAL MALVI	NA	23	5	28
104	D2D	RATAN SINGH	NA	23	5	28
105	D2D	SACHIN TOLLANI	NA	22	6	28
106	D2D	VRASHABH PURBIA	NA	21	5	26

Signature of Faculty :

Signature of HOD

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Name of faculty: Ms. Charu Kavadia

Subject with Code: Object Oriented Programming 3CS4-06

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DABOK, UDAIPUR, RAJASTHAN 313022

RESULT ANALYSIS

Section-A: 96.08%

Section-B: 79.63%

CO to PO & PSO Mapping (Target)

Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO23406.1	1	3	0	0	0	0	0	0	0	0	0	0	2	0	0
CO23406.2	1	2	2	0	0	0	0	0	0	0	0	0	1	0	0
CO23406.3	1	0	2	2	1	0	0	0	0	0	0	0	2	1	0
CO23406.4	1	2	2	0	1	0	0	0	0	0	0	0	1	2	0
CO23406.5	1	3	1	0	0	0	0	0	0	0	0	0	1	2	0
C23406(AVG)	1.00	2.00	1.40	0.40	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.40	1.00	0.00

CO to PO & PSO Mapping (Attainment)

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C23406	0.53	0.96	0.71	0.22	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.73	0.44	0.00

CO Attainment Level

CO Attainment Calculation	% of students get >= Target %	CO Attainment Level
No. of Students Attained CO11306.1	24	1
No. of Students Attained CO11306.2	25	1
No. of Students Attained CO11306.3	59	2
No. of Students Attained CO11306.4	13	2
No. of Students Attained CO11306.5	22	1

> Rationale:
> If 0-15% Students get >=Target % then Attainment Level=0
> If 15-45% Students get >=Target % then Attainment Level=1
> If 45-60% Students get >=Target % then Attainment Level=2
> If 60-100% Students get >=Target % then Attainment Level=3

Remarks:

Signature of Faculty :

Signature of HOD

Name of faculty: Ms. Charu Kavadia

Subject with Code: Object Oriented Programming 3CS4-06

NBA CODE: C23406

GEETANJALI INSTITUTE OF TECHNICAL STUDIES, DABOK
I SEM A

Class teacher : Dr.Charu Khamsera, Dr.Deepika Sahu
D1CR02

	1 9:00 - 10:00	2 10:00 - 11:00	3 11:00 - 12:00	4 12:00 - 1:00	5 1:00 - 2:00	6 2:00 - 3:00	7 3:00 - 4:00
Mo	BCE Rajanikant Suthar	BME Vijayendra S Sankhla	CHE Dr.Charu Khamsera		MATHS Dr.Varun Humad	D3LB01 Group 1 CIVIL LAB Rajanikant Suthar Che lab 1 Group 2 CHEMISTRY LAB Dr.Charu Khamsera	
Tu	MATHS Dr.Varun Humad	CHE Dr.Charu Khamsera	ENGLISH Dr.Deepika Sahu		WORK SHOP I Group 1 WORKSHOP Surbhi Mishra WORK SHOP II Group 2 WORKSHOP Lokesh Sharma		
We	A2DH02 Group 1 CAD LAB Mukesh Lohar A2DH01 Group 2 CAD LAB Preetam Singh				BME Vijayendra S Sankhla	CHE Dr.Charu Khamsera	MATHS Dr.Varun Humad
Th	MATHS Dr.Varun Humad	CHE Dr.Charu Khamsera	BME Vijayendra S Sankhla		BCE Rajanikant Suthar	Che lab 1 Group 1 CHEMISTRY LAB Dr.Charu Khamsera Group 2 LANGUAGE LAB Dr.Deepika Sahu	
Fr	MATHS Dr.Varun Humad	CHE Dr.Charu Khamsera	BCE Rajanikant Suthar		ENGLISH Dr.Deepika Sahu	Group 1 LANGUAGE LAB Dr.Deepika Sahu D2LB03 Group 2 CIVIL LAB Rajanikant Suthar	
Sa	MATHS Dr.Varun Humad	BME Vijayendra S Sankhla	BCE Rajanikant Suthar		Soft Skill Naveen Jain	CHE Dr.Charu Khamsera	ENGLISH Dr.Deepika Sahu

Timetable generated: 26-07-2019

aSc Timetables

GEETANJALI INSTITUTE OF TECHNICAL STUDIES, DABOK
I SEM B

Class teacher : Dr.Radha Chaudhary, Gajendra Porwal
D1CR03

	1 9:00 - 10:00	2 10:00 - 11:00	3 11:00 - 12:00	4 12:00 - 1:00	5 1:00 - 2:00	6 2:00 - 3:00	7 3:00 - 4:00
Mo	BME Vijayendra S. Sankhla	CHE Dr.Radha Chaudhary	ENGLISH Anjali Dhabhai		Group 1 LANGUAGE LAB Anjali Dhabhai D2LB03 Group 2 CIVIL LAB NARENDRA PALIWAL		MATHS Gajendra Porwal
Tu	MATHS Gajendra Porwal	CHE Dr.Radha Chaudhary	BME Vijayendra S Sankhla		BCE Ajay Nagda	D3LB01 Group 1 CIVIL LAB NARENDRA PALIWAL Che lab 1 Group 2 CHEMISTRY LAB Dr.Radha Chaudhary	
We	MATHS Gajendra Porwal	CHE Dr.Radha Chaudhary	BCE Ajay Nagda		WORK SHOP I Group 1 WORKSHOP Surbhi Mishra WORK SHOP II Group 2 WORKSHOP Lokesh Sharma		
Th	MATHS Gajendra Porwal	BME Vijayendra S Sankhla	CHE Dr.Radha Chaudhary		D3DH01 Group 1 CAD LAB Preetam Singh A2DH01 Group 2 CAD LAB Mukesh Lohar		
Fr	BCE Ajay Nagda	Che lab 1 Group 1 CHEMISTRY LAB Dr.Radha Chaudhary Group 2 LANGUAGE LAB Anjali Dhabhai			MATHS Gajendra Porwal	CHE Dr.Radha Chaudhary	ENGLISH Anjali Dhabhai
Sa	MATHS Gajendra Porwal	BCE Ajay Nagda	BME Vijayendra S Sankhla		CHE Dr.Radha Chaudhary	Soft Skill Naveen Jain	ENGLISH Anjali Dhabhai

Timetable generated:26-07-2019

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aSc Timetables

GEETANJALI INSTITUTE OF TECHNICAL STUDIES, DABOK

I SEM C

Class teacher : Dr.Kiran Maheshwari, Dr. Gajendra Pal Singh

D1CR04

	1 9:00 - 10:00	2 10:00 - 11:00	3 11:00 - 12:00	4 12:00 - 1:00	5 1:00 - 2:00	6 2:00 - 3:00	7 3:00 - 4:00
Mo	BCE Ajay Nagda	CHE Dr.Kiran Maheshwari	MATHS Dr. Gajendra Pal Singh		D3DH01 A2DH01	CAD LAB CAD LAB	Group 1 Preetam Singh Group 2 K.S.Rahi
Tu	CHE Dr.Kiran Maheshwari	BME Vijayendra S Sankhla	BCE Ajay Nagda		MATHS Dr. Gajendra Pal Singh	LANGUAGE LAB D2LB03 CIVIL LAB	Group 1 Dr.Sonila Saini Group 2 Ajay Nagda
We	MATHS Dr. Gajendra Pal Singh	BME Vijayendra S Sankhla	CHE Dr.Kiran Maheshwari		BCE Ajay Nagda	Che lab 1 CHEMISTRY LAB LANGUAGE LAB	Group 1 Dr.Kiran Maheshwari Group 2 Dr.Sonila Saini
Th	MATHS Dr. Gajendra Pal Singh	CHE Dr.Kiran Maheshwari	ENGLISH Dr.Sonila Saini		WORK SHOP I WORK SHOP II	WORKSHOP WORKSHOP	Group 1 Surbhi Mishra Group 2 Lokesh Sharma
Fr	MATHS Dr. Gajendra Pal Singh	ENGLISH Dr.Sonila Saini	CHE Dr.Kiran Maheshwari		BME Vijayendra S Sankhla	D3LB01 CIVIL LAB Che lab 1 CHEMISTRY LAB	Group 1 Ajay Nagda Group 2 Dr.Kiran Maheshwari
Sa	MATHS Dr. Gajendra Pal Singh	Soft Skill Naveen Jain	BCE Ajay Nagda		BME Vijayendra S Sankhla	ENGLISH Dr.Sonila Saini	CHE Dr.Kiran Maheshwari

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aSc Timetables

GEETANJALI INSTITUTE OF TECHNICAL STUDIES, DABOK

I SEM D

Class teacher : Dr. Rajbeer Sharma, Dr. Rekha Lahoti

D1CR01

	1 9:00 - 10:00	2 10:00 - 11:00	3 11:00 - 12:00	4 12:00 - 1:00	5 1:00 - 2:00	6 2:00 - 3:00	7 3:00 - 4:00
Mo	MATHS Dr. Rekha Lahoti	BEE Rameshwar Devra	PHY Dr. Rajbeer Sharma		HV Dr.Deepika Sahu	Phy lab 1 PHYSICS LAB HU LAB	Group 1 Dr. Rajbeer Sharma Group 2 Dr.Deepika Sahu
Tu	PFPS Ritesh Kumar Jain	PHY Dr. Rajbeer Sharma	MATHS Dr. Rekha Lahoti		A2DH01 D3DH01	CAD LAB CAD LAB	Group 1 Preetam Singh Group 2 K.S.Rahi
We	PFPS Ritesh Kumar Jain	PHY Dr. Rajbeer Sharma	MATHS Dr. Rekha Lahoti		HV Dr.Deepika Sahu	HU LAB A0LB05 ELECTRICAL LAB	Group 1 Dr.Deepika Sahu Group 2 Rameshwar Devra
Th	MATHS Dr. Rekha Lahoti	BEE Rameshwar Devra	PHY Dr. Rajbeer Sharma		A0LB10	CP LAB Ritesh Kumar Jain / Vishal Jain	
Fr	PHY Dr. Rajbeer Sharma	PFPS Ritesh Kumar Jain	BEE Rameshwar Devra		MATHS Dr. Rekha Lahoti	A0LB05 ELECTRICAL LAB Phy lab 1 PHYSICS LAB	Group 1 Rameshwar Devra Group 2 Dr. Rajbeer Sharma
Sa	PHY Dr. Rajbeer Sharma	PFPS Ritesh Kumar Jain	MATHS Dr. Rekha Lahoti		HV Dr.Deepika Sahu	BEE Rameshwar Devra	Soft Skill Shalini Jain

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aSc Timetables

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Geetanjali Institute of Technical Studies
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GEETANJALI INSTITUTE OF TECHNICAL STUDIES, DABOK
I SEM E

Class teacher : Dr.Varun Humad, Anjali Dhabhai
D1CR05

	1 9:00 - 10:00	2 10:00 - 11:00	3 11:00 - 12:00	4 12:00 - 1:00	5 1:00 - 2:00	6 2:00 - 3:00	7 3:00 - 4:00
Mo	MATHS Dr.Varun Humad	PFPS Ritesh Kumar Jain	PHY Dr. Vishal Jain		A0LB10 CP LAB		Ritesh Kumar Jain / Vishal Jain
Tu	BEE Rameshwar Devra	HV Anjali Dhabhai	PHY Dr. Vishal Jain		MATHS Dr.Varun Humad	A0LB05 ELECTRICAL LAB Group 1 Mohit Mathur	Phy lab 1 PHYSICS LAB Group 2 Dr. Vishal Jain
We	PHY Dr. Vishal Jain	PFPS Ritesh Kumar Jain	MATHS Dr.Varun Humad		HV Anjali Dhabhai	Phy lab 1 PHYSICS LAB Group 1 Dr. Vishal Jain	HU LAB Group 2 Anjali Dhabhai
Th	PHY Dr. Vishal Jain	PFPS Ritesh Kumar Jain	MATHS Dr.Varun Humad		BEE Rameshwar Devra	HU LAB Group 1 Anjali Dhabhai	A0LB05 ELECTRICAL LAB Group 2 Mohit Mathur
Fr	BEE Rameshwar Devra	PHY Dr. Vishal Jain	MATHS Dr.Varun Humad		D3OH01 CAD LAB Group 1 Abhishek Joshi	A2OH01 CAD LAB Group 2 Preetam Singh	
Sa	BEE Rameshwar Devra	Soft Skill Shalini Jain	HV Anjali Dhabhai		MATHS Dr.Varun Humad	PHY Dr. Vishal Jain	PFPS Ritesh Kumar Jain

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aSc Timetables

GEETANJALI INSTITUTE OF TECHNICAL STUDIES, DABOK
I SEM F

Class teacher : Dr. Vishal Jain, Dr.Sonila Saini
D1CR06

	1 9:00 - 10:00	2 10:00 - 11:00	3 11:00 - 12:00	4 12:00 - 1:00	5 1:00 - 2:00	6 2:00 - 3:00	7 3:00 - 4:00
Mo	BEE Rameshwar Devra	PHY Dr. Vishal Jain	HV Dr.Sonila Saini		MATHS Gajendra Porwal	HU LAB Group 1 Dr.Sonila Saini	A0LB05 ELECTRICAL LAB Group 2 Shruti Bhadviya
Tu	PHY Dr. Vishal Jain	MATHS Gajendra Porwal	PFPS Vishal Jain		D2LB01 CP LAB		Ritesh Kumar Jain / Vishal Jain
We	BEE Rameshwar Devra	MATHS Gajendra Porwal	PHY Dr. Vishal Jain		A2OH02 CAD LAB Group 1 Ramdayal Kumawat	A2OH01 CAD LAB Group 2 Abhishek Joshi	
Th	PFPS Vishal Jain	MATHS Gajendra Porwal	BEE Rameshwar Devra		PHY Dr. Vishal Jain	Phy lab 1 PHYSICS LAB Group 1 Dr. Rajbeer Sharma	HU LAB Group 2 Dr.Sonila Saini
Fr	PHY Dr. Vishal Jain	A0LB05 ELECTRICAL LAB Group 1 Shruti Bhadviya Phy lab 1 PHYSICS LAB Group 2 Dr. Rajbeer Sharma			PFPS Vishal Jain	MATHS Gajendra Porwal	HV Dr.Sonila Saini
Sa	PFPS Vishal Jain	PHY Dr. Vishal Jain	MATHS Gajendra Porwal		BEE Rameshwar Devra	Soft Skill Shalini Jain	HV Dr.Sonila Saini

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Geetanjali Institute of Technical Studies
Dabok, UDAIPUR-313022 (Raj.)

aSc Timetables

GEETANJALI INSTITUTE OF TECHNICAL STUDIES, DABOK
EC III SEM

Class teacher : Naveen Jain
A1CR03

	1 9:00 - 10:00	2 10:00 - 11:00	3 11:00 - 12:00	4 12:00 - 1:00	5 1:00 - 2:00	6 2:00 - 3:00	7 3:00 - 4:00
Mo	DSD Saurabh Porwal	SS Naveen Jain	NT Rahul Moud		AEM Dr. Gajendra Pal Singh	A1LB02 CP LAB Ruchi Vyas	
Tu	DSD Saurabh Porwal	NT Rahul Moud	SS Naveen Jain		MEFA Lokesh Mali	ED Ronak Shrimal	AEM Dr. Gajendra Pal Singh
We	DSD Saurabh Porwal	ED Ronak Shrimal	AEM Dr. Gajendra Pal Singh		MEFA Lokesh Mali	A1LB06 DSD LAB Saurabh Porwal	
Th	ED Ronak Shrimal	DSD Saurabh Porwal	SS Naveen Jain		NT Rahul Moud	A1LB02 SP LAB Naveen Jain / Meena Kushwaha	
Fr	SS Naveen Jain	NT Rahul Moud	ED Ronak Shrimal		AEM Dr. Gajendra Pal Singh	A1LB03 ED LAB Ronak Shrimal	
Sa	ED Ronak Shrimal	DSD Saurabh Porwal	MEFA Lokesh Mali		Technical Training Saurabh Porwal / Ravi Teli		

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aSc Timetables

GEETANJALI INSTITUTE OF TECHNICAL STUDIES, DABOK
EC V SEM

Class teacher : Tina Bhati
A1CR04

	1 9:00 - 10:00	2 10:00 - 11:00	3 11:00 - 12:00	4 12:00 - 1:00	5 1:00 - 2:00	6 2:00 - 3:00	7 3:00 - 4:00
Mo	MTT Md. Sabir	EMW Rahul Moud / Ravi Teli	CA Ravi Teli		DSP Meena Kushwaha	A1LB03 RFS Lab Ronak Shrimal / Md. Sabir	
Tu	CS Tina Bhati	DSP Meena Kushwaha	CA Ravi Teli		BME Anurag Paliwal	EMW Rahul Moud / Ravi Teli	MTT Md. Sabir
We	BME Anurag Paliwal	CA Ravi Teli	CS Tina Bhati		EMW Rahul Moud / Ravi Teli	A1LB02 DSP LAB Meena Kushwaha / Naveen Jain	
Th	MTT Md. Sabir	DSP Meena Kushwaha	BME Anurag Paliwal		CS Tina Bhati	A1LB01 MW LAB Md. Sabir	
Fr	CS Tina Bhati	DSP Meena Kushwaha	EMW Rahul Moud / Ravi Teli		CA Ravi Teli	BME Anurag Paliwal	MTT Md. Sabir
Sa	CS Tina Bhati	MTT Md. Sabir	EMW Rahul Moud / Ravi		A1LB02	IT Rajeev Mathur	

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GEETANJALI INSTITUTE OF TECHNICAL STUDIES, DABOK
EC VII SEM

Class teacher : Ravi Teli
A1CR01

	1 9:00 - 10:00	2 10:00 - 11:00	3 11:00 - 12:00	4 12:00 - 1:00	5 1:00 - 2:00	6 2:00 - 3:00	7 3:00 - 4:00
Mo	WC Ronak Shrimal	AWP Rajeev Mathur	VLSI DESIGN Vijendra Maurya		DIP Ravi Teli	VHDL Latif Khan	DSP Meena Kushwaha
Tu	DIP Ravi Teli	VHDL Latif Khan	WC Ronak Shrimal		AWP Rajeev Mathur	TRAINING & VISIT Anurag Paliwal / Saurabh Porwal	
We	VHDL Latif Khan	AWP Rajeev Mathur	VLSI DESIGN Vijendra Maurya		WC Ronak Shrimal	A1LB01 WC LAB Anurag Paliwal	
Th	VHDL Latif Khan	DIP Ravi Teli	DSP Meena Kushwaha		VLSI DESIGN Vijendra Maurya	PROJECT Rajeev Mathur	
Fr	DIP Ravi Teli	AWP Rajeev Mathur	VLSI DESIGN Vijendra Maurya		DSP Meena Kushwaha	A1LB02 SIP LAB Meena Kushwaha / Ravi Teli	
Sa	DSP Meena Kushwaha	VLSI DESIGN Vijendra Maurya	WC Ronak Shrimal		Gate Preparation Rahul Moud / Ronak Shrimal		

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aSc Timetables

GEETANJALI INSTITUTE OF TECHNICAL STUDIES, DABOK
CS III SEM A

Class teacher : Manish Tiwari
B1CR04

	1 9:00 - 10:00	2 10:00 - 11:00	3 11:00 - 12:00	4 12:00 - 1:00	5 1:00 - 2:00	6 2:00 - 3:00	7 3:00 - 4:00
Mo	DSA Bhupendra Teli	SE Manish Tiwari	AEM Gajendra Porwal		B1LB01	DE LAB Shipra Sharma / Nikita Somani	
Tu	OOPS Charu Kavadia	ME&FA Lokesh Mali	DSA Bhupendra Teli		B1LB02	SE LAB Manish Tiwari / Nikita Somani	
We	OOPS Charu Kavadia	SE Manish Tiwari	DE Shipra Sharma		B1LB02	OOPS LAB Charu Kavadia / Manish Tiwari	
Th	OOPS Charu Kavadia	SE Manish Tiwari	DE Shipra Sharma		AEM Gajendra Porwal	DSA Bhupendra Teli	ME&FA Lokesh Mali
Fr	DE Shipra Sharma	AEM Gajendra Porwal	SE Manish Tiwari		B1LB02	DSA LAB Charu Kavadia / Bhupendra Teli	
Sa	DSA Bhupendra Teli	ME&FA Lokesh Mali	OOPS Charu Kavadia		AEM Gajendra Porwal	DE Shipra Sharma	Competitive Programming Akhilesh Deep Arya

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aSc Timetables

GEETANJALI INSTITUTE OF TECHNICAL STUDIES, DABOK
CS III SEM B

Class teacher : Charu Kavadia
B1CR03

	1 9:00 - 10:00	2 10:00 - 11:00	3 11:00 - 12:00	4 12:00 - 1:00	5 1:00 - 2:00	6 2:00 - 3:00	7 3:00 - 4:00
Mo	AEM Gajendra Porwal	DSA Girish Ameta	OOPS Charu Kavadia		B1LB02 OOPS LAB Charu Kavadia / Bhupendra Teli		
Tu	DSA Girish Ameta	SE Manish Tiwari	DE Shipra Sharma		AEM Gajendra Porwal	OOPS Charu Kavadia	ME&FA Lokesh Mali
We	DSA Girish Ameta	DE Shipra Sharma	SE Manish Tiwari		B1LB01 DE LAB Shipra Sharma / Nikita Somani		
Th	DE Shipra Sharma	OOPS Charu Kavadia	SE Manish Tiwari		B1LB02 DSA LAB Girish Ameta / Shipra Sharma		
Fr	ME&FA Lokesh Mali	SE Manish Tiwari	AEM Gajendra Porwal		B1LB01 SE LAB Manish Tiwari / Nikita Somani		
Sa	ME&FA Lokesh Mali	OOPS Charu Kavadia	DE Shipra Sharma		DSA Girish Ameta	Competitive Programming Akhilesh Deep Arya	AEM Gajendra Porwal

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aSc Timetables

GEETANJALI INSTITUTE OF TECHNICAL STUDIES, DABOK
CS V SEM A

Class teacher : Shrusti Porwal
B1CR01

	1 9:00 - 10:00	2 10:00 - 11:00	3 11:00 - 12:00	4 12:00 - 1:00	5 1:00 - 2:00	6 2:00 - 3:00	7 3:00 - 4:00
Mo	ITC Vishal Jain	OS Shrusti Porwal	Ad. Java Dr. Mayank Patel		CD Jitendra Sharma	B0LB01 Ad. Java Lab Dr. Mayank Patel / Ayushi Chaplot	
Tu	OS Shrusti Porwal	CGM Ayushi Chaplot	WC Nikita Somani		AOL Abhishek Gupta	B1LB01 CD lab Jitendra Sharma / Ruchi Vyas	
We	CD Jitendra Sharma	AOL Abhishek Gupta	CGM Ayushi Chaplot		Ad. Java Dr. Mayank Patel	ITC Vishal Jain	OS Shrusti Porwal
Th	AOL Abhishek Gupta	WC Nikita Somani	CGM Ayushi Chaplot		B0LB01 CGM Lab Ayushi Chaplot / Shrusti Porwal		
Fr	CD Jitendra Sharma	OS Shrusti Porwal	ITC Vishal Jain		B0LE01 AOL lab Ruchi Vyas / Abhishek Gupta		
Sa	AOL Abhishek Gupta	CGM Ayushi Chaplot	CD Jitendra Sharma		WC Nikita Somani	B1SH01 IT Shrusti Porwal	

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GEETANJALI INSTITUTE OF TECHNICAL STUDIES, DABOK
CS V SEM B

Class teacher : Ruchi Vyas
B1CR02

	1 9:00 - 10:00	2 10:00 - 11:00	3 11:00 - 12:00	4 12:00 - 1:00	5 1:00 - 2:00	6 2:00 - 3:00	7 3:00 - 4:00
Mo	WC Nikita Somani	OS Ruchi Vyas	ITC Vishal Jain		CGM Ayushi Chaplot	AOL Abhishek Gupta	CD Jitendra Sharma
Tu	AOL Abhishek Gupta	Ad. Java Dr. Mayank Patel	CD Jitendra Sharma		B0LB01 CGM Lab Ayushi Chaplot / Shrusti Porwal		
We	ITC Vishal Jain	WC Nikita Somani	AOL Abhishek Gupta		OS Ruchi Vyas	B0LB01 Ad. Java Lab Dr. Mayank Patel / Ayushi Chaplot	
Th	CGM Ayushi Chaplot	OS Ruchi Vyas	Ad. Java Dr. Mayank Patel		B1LB01	AOL lab Abhishek Gupta / Ruchi Vyas	
Fr	CGM Ayushi Chaplot	B1LB01 CD lab Jitendra Sharma / Ruchi Vyas			CD Jitendra Sharma	CGM Ayushi Chaplot	ITC Vishal Jain
Sa	OS Ruchi Vyas	CD Jitendra Sharma	WC Nikita Somani		AOL Abhishek Gupta	B1LB01 IT	Ruchi Vyas

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aSc Timetables

GEETANJALI INSTITUTE OF TECHNICAL STUDIES, DABOK
CS VII SEM A

Class teacher : Girish Ameta
B1LT01

	1 9:00 - 10:00	2 10:00 - 11:00	3 11:00 - 12:00	4 12:00 - 1:00	5 1:00 - 2:00	6 2:00 - 3:00	7 3:00 - 4:00
Mo	COMPILER CONS Jitendra Sharma	ISS Abhishek Gupta	DCT Bhupendra Teli		DM & WH Shrusti Porwal	CAD FOR VLSI Vijendra Maurya	CC Girish Ameta
Tu	CAD FOR VLSI Vijendra Maurya	B0LB01 WD LAB Akhilesh Arya / Girish Ameta			COMPILER CONS Jitendra Sharma	CC Girish Ameta	ISS Abhishek Gupta
We	B0LB01 COMPILER DESIGN LAB Bhupendra Teli / Akhilesh Arya				DM & WH Shrusti Porwal	DCT Bhupendra Teli	ISS Abhishek Gupta
Th	A1LB02 VLSI DESIGN LAB Vijendra Maurya / Rahul Moud				COMPILER CONS Jitendra Sharma	CAD FOR VLSI Vijendra Maurya	DCT Bhupendra Teli
Fr	CC Girish Ameta	ISS Abhishek Gupta	DCT Bhupendra Teli		DM & WH Shrusti Porwal	CAD FOR VLSI Vijendra Maurya	COMPILER CONS Jitendra Sharma
Sa	BISH01 PRACTICAL TRAINING Dr. Mayank Patel / Girish Ameta				DM & WH Shrusti Porwal	B1LB03 PROJECT-I Girish Ameta / Dr. Mayank Patel	

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aSc Timetables

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GEETANJALI INSTITUTE OF TECHNICAL STUDIES, DABOK
CS VII SEM B

Class teacher : Akhilesh Deep Arya
B2CR03

	1 9:00 - 10:00	2 10:00 - 11:00	3 11:00 - 12:00	4 12:00 - 1:00	5 1:00 - 2:00	6 2:00 - 3:00	7 3:00 - 4:00
Mo							
Tu							
We							
Th							
Fr							
Sa	BISH01 PRACTICAL TRAINING Dr. Mayank Patel / Girish Ameta					B1LB03 PROJECT-I Girish Ameta / Dr. Mayank Patel	

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aSc Timetables

GEETANJALI INSTITUTE OF TECHNICAL STUDIES, DABOK
EE III SEM

Class teacher : Mohit Mathur, Himanshuraj Singh, Kiran Kumar Nagda
A0LT01

	1 9:00 - 10:00	2 10:00 - 11:00	3 11:00 - 12:00	4 12:00 - 1:00	5 1:00 - 2:00	6 2:00 - 3:00	7 3:00 - 4:00
Mo	EF Irfan Ali	ECA Kiran Kumar Nagda	AM Dr. Rekha Lahoti		EM-I Mohit Mathur	A0LB07 ECD LAB Group 1 Kiran Kumar Nagda	A0LB09 EM-I LAB Group 2 Uday Kumar
Tu	EF Irfan Ali	AE Dr.P.C.Bapna	PGP Himanshuraj Singh		TC Dr.Deepika Sahu	A1LB03 AE LAB Group 1 Himanshuraj Singh	A0LB09 EM-I LAB Group 2 Uday Kumar
We	AM Dr. Rekha Lahoti	PGP Himanshuraj Singh	EM-I Mohit Mathur		ECA Kiran Kumar Nagda	A0LB07 ECD LAB Group 1 Kiran Kumar Nagda	A1LB03 AE LAB Group 2 Himanshuraj Singh
Th	ECA Kiran Kumar Nagda	AE Dr.P.C.Bapna	EF Irfan Ali		AM Dr. Rekha Lahoti	A0LB09 EM-I LAB Group 1 Uday Kumar	A0LB07 ECD LAB Group 2 Kiran Kumar Nagda
Fr	EM-I Mohit Mathur	AE Dr.P.C.Bapna	AM Dr. Rekha Lahoti		PGP Himanshuraj Singh	A0LB09 EM-I LAB Group 1 Uday Kumar	A0LB07 ECD LAB Group 2 Kiran Kumar Nagda
Sa	ECA Kiran Kumar Nagda	AE Dr.P.C.Bapna	TC Dr.Deepika Sahu		EF Irfan Ali	A0LB10 Training Seminar Mohit Mathur	

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aSc Timetables

GEETANJALI INSTITUTE OF TECHNICAL STUDIES, DABOK
EE V SEM

Class teacher : Uday Kumar, Irfan Ali
A0CR02

	1 9:00 - 10:00	2 10:00 - 11:00	3 11:00 - 12:00	4 12:00 - 1:00	5 1:00 - 2:00	6 2:00 - 3:00	7 3:00 - 4:00
Mo	RPS Uday Kumar	PS-I Dr. Monika Vardia	E-Mat Abhishek Sharma		EMD Irfan Ali	A1LB09 CS LAB *Himanshuraj Singh* Group 1 A1LB05 MP LAB *Irfan Ali* Group 2	
Tu	PS-I Dr. Monika Vardia	E-Mat Abhishek Sharma	MP Shruti Bhadviya		CS Himanshuraj Singh	A1LB05 MP LAB *Irfan Ali* Group 1 A1LB10 PS-I LAB *Dr. Monika Vardia* Group 2	
We	MP Shruti Bhadviya	EMD Irfan Ali	CS Himanshuraj Singh		RPS Uday Kumar	A0LB10 SP LAB Irfan Ali / Shruti Bhadviya	
Th	EMD Irfan Ali	CS Himanshuraj Singh	RPS Uday Kumar		E-Mat Abhishek Sharma	PS-I Dr. Monika Vardia	MP Shruti Bhadviya
Fr	RPS Uday Kumar	E-Mat Abhishek Sharma	PS-I Dr. Monika Vardia		EMD Irfan Ali	A1LB10 PS-I LAB *Dr. Monika Vardia* Group 1 A1LB09 CS LAB *Himanshuraj Singh* Group 2	
Sa	EMD Irfan Ali	CS Himanshuraj Singh	MP Shruti Bhadviya			IT Dr. Monika Vardia	

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GEETANJALI INSTITUTE OF TECHNICAL STUDIES, DABOK
EE VII SEM

Class teacher : Dr. Monika Vardia, Abhishek Sharma, Shruti Bhadviya
A0CR01

	1 9:00 - 10:00	2 10:00 - 11:00	3 11:00 - 12:00	4 12:00 - 1:00	5 1:00 - 2:00	6 2:00 - 3:00	7 3:00 - 4:00
Mo	PSP Mohit Mathur	NCES Shruti Bhadviya	PSA Uday Kumar		EOPS Abhishek Sharma	A0LB03 PSP LAB Mohit Mathur / Abhishek Sharma	
Tu	PSA Uday Kumar	AIT Kiran Kumar Nagda	EOPS Abhishek Sharma		PSP Mohit Mathur	IEM Jitendra Charan	NCES Shruti Bhadviya
We	PSP Mohit Mathur	AIT Kiran Kumar Nagda	NCES Shruti Bhadviya		PSE Dr. Monika Vardia	Project-1 Dr. P.C.Bapna	
Th	PSE Dr. Monika Vardia	EOPS Abhishek Sharma	NCES Shruti Bhadviya		IEM Jitendra Charan	Gate Preparation Himanshuraj Singh	
Fr	PSE Dr. Monika Vardia	AIT Kiran Kumar Nagda	PSP Mohit Mathur		PSA Uday Kumar	A0LB10 PSMS LAB Irfan Ali / Shruti Bhadviya	
Sa	PSA Uday Kumar	EOPS Abhishek Sharma	PSE Dr. Monika Vardia		AIT Kiran Kumar Nagda	Training & Industrial visit Dr.P.C.Bapna	

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Geetanjali Institute of Technical Studies
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aSc Timetables

GEETANJALI INSTITUTE OF TECHNICAL STUDIES, DABOK
ME III SEM A

Class teacher : K.S.Rahi
B2CR07

	1 9:00 - 10:00	2 10:00 - 11:00	3 11:00 - 12:00	4 12:00 - 1:00	5 1:00 - 2:00	6 2:00 - 3:00	7 3:00 - 4:00
Mo	Engg. Mech Narendra Patel	MOS Saurabh Tege	E T Dr. Deepak Paliwal		TC Dr.Sonila Saini	MS & E Lokesh Sharma	AEM Dr.Varun Humad
Tu	MOS Saurabh Tege	MS & E Lokesh Sharma	AEM Dr.Varun Humad		A2LB05 A2DH02	BME LAB MD LAB	Group 1 Saurabh Tege Group 2 Ramdayal Kumawat
We	A0LB10 MAT LAB Uday Kumar / Abhishek Sharma				AEM Dr.Varun Humad	MOS Saurabh Tege	E T Dr. Deepak Paliwal
Th	Engg. Mech Narendra Patel	E T Dr. Deepak Paliwal	MS & E Lokesh Sharma		A2DH02 B0LB06	MD LAB MT LAB	Group 1 Ramdayal Kumawat Group 2 K.S.Rahi
Fr	MOS Saurabh Tege	E T Dr. Deepak Paliwal	Engg. Mech Narendra Patel		B0LB06 A2LB05	MT LAB BME LAB	Group 1 K.S.Rahi Group 2 Saurabh Tege
Sa	TC Dr.Sonila Saini	Engg. Mech Narendra Patel	AEM Dr.Varun Humad			IT	Saurabh Tege

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aSc Timetables

GEETANJALI INSTITUTE OF TECHNICAL STUDIES, DABOK
ME & AE III SEM B

Class teacher : Lokesh Sharma
B2CR06

	1 9:00 - 10:00	2 10:00 - 11:00	3 11:00 - 12:00	4 12:00 - 1:00	5 1:00 - 2:00	6 2:00 - 3:00	7 3:00 - 4:00
Mo	Engg. Mech Mukesh Lohar	MS & E Lokesh Sharma	AEM Dr.Varun Humad		A2DH02 B0LB06	MD LAB MT LAB	Group 1 Ramdayal Kumawat Group 2 Narendra Patel
Tu	Engg. Mech Mukesh Lohar	E T Dr. Deepak Paliwal	MOS Saurabh Tege		A0LB10	MAT LAB	Abhishek Sharma / KKN
We	AEM Dr.Varun Humad	E T Dr. Deepak Paliwal	MOS Saurabh Tege		B0LB05 A2LB05	MT LAB BME LAB	Group 1 Narendra Patel Group 2 Udai Singh Chauhan
Th	MS & E Lokesh Sharma	MOS Saurabh Tege	Engg. Mech Mukesh Lohar		TC Dr.Sonila Saini	AEM Dr.Varun Humad	E T Dr. Deepak Paliwal
Fr	A2LB05 BME LAB A2DH02 MD LAB	Group 1 Udai Singh Chauhan Group 2 Ramdayal Kumawat			TC Dr.Sonila Saini	AEM Dr.Varun Humad	MS & E Lokesh Sharma
Sa	MOS Saurabh Tege	E T Dr. Deepak Paliwal	Engg. Mech Mukesh Lohar			IT	Lokesh Sharma

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aSc Timetables

GEETANJALI INSTITUTE OF TECHNICAL STUDIES, DABOK
ME & AE V SEM

Class teacher : Mahendra Salvi
B2CR02

	1 9:00 - 10:00	2 10:00 - 11:00	3 11:00 - 12:00	4 12:00 - 1:00	5 1:00 - 2:00	6 2:00 - 3:00	7 3:00 - 4:00
Mo	MCTS Tina Bhati	DOME I Anand Balkrishnan	HT Mahendra Salvi		POM Surbhi Mishra	A1LB06 **MCTS Lab** Group 1 Tina Bhati WORKSHOP III **PE LAB** Group 2 Udai Singh Chauhan	
Tu	HT Mahendra Salvi	MT K.S.Rahi	AE Zuber Khan		DOME I Anand Balkrishnan	**MD I Lab** Group 1 Anand Balkrishnan B0LB04 **HT LAB** Group 2 Mahendra Salvi	
We	MT K.S.Rahi	DOME I Anand Balkrishnan	POM Surbhi Mishra		AE Zuber Khan	MCTS Tina Bhati	HT Mahendra Salvi
Th	POM Surbhi Mishra	MCTS Tina Bhati	MT K.S.Rahi		HT Mahendra Salvi	B0LB04 **HT LAB** Group 1 Mahendra Salvi A1LB06 **MCTS Lab** Group 2 Tina Bhati	
Fr	DOME I Anand Balkrishnan	HT Mahendra Salvi	AE Zuber Khan		MCTS Tina Bhati	WORKSHOP III **PE LAB** Group 1 Udai Singh Chauhan **MD I Lab** Group 2 Anand Balkrishnan	
Sa	AE Zuber Khan	MT K.S.Rahi	MCTS Tina Bhati			IT Mahendra Salvi	

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aSc Timetables

GEETANJALI INSTITUTE OF TECHNICAL STUDIES, DABOK
ME VII SEM

Class teacher : Zuber Khan
B2CR05

	1 9:00 - 10:00	2 10:00 - 11:00	3 11:00 - 12:00	4 12:00 - 1:00	5 1:00 - 2:00	6 2:00 - 3:00	7 3:00 - 4:00
Mo	Turbomachines Abhishek Joshi	R&AC Udai Singh Chauhan	CNCP Narendra Patel		B2LB01 / A0LB06	**FEM Lab** Group 1 Mukesh Lohar **TE LAB** Group 2 Zuber Khan	
Tu	CNCP Narendra Patel	OR Surbhi Mishra	FEM Mukesh Lohar		A0LB06 / B2LB01	**TE LAB** Group 1 Zuber Khan **FEM Lab** Group 2 Narendra Patel	
We	OR Surbhi Mishra	Turbomachines Abhishek Joshi	R&AC Udai Singh Chauhan			Training & visit K.S.Rahi	
Th	FEM Mukesh Lohar	OM Preetam Singh	OR Surbhi Mishra		R&AC Udai Singh Chauhan	Turbomachines Abhishek Joshi	CNCP Narendra Patel
Fr	CNCP Narendra Patel	OM Preetam Singh	Turbomachines Abhishek Joshi		R&AC Udai Singh Chauhan	FEM Mukesh Lohar	OR Surbhi Mishra
Sa	FEM Mukesh Lohar	OM Preetam Singh	OR Surbhi Mishra		Project-1 Dr. Deepak Paliwal	Project-1 Vijayendra S. Sankhla	

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aSc Timetables

GEETANJALI INSTITUTE OF TECHNICAL STUDIES, DABOK
AE VII Sem

Class teacher : Anand Balkrishnan
B2CR04

	1 9:00 - 10:00	2 10:00 - 11:00	3 11:00 - 12:00	4 12:00 - 1:00	5 1:00 - 2:00	6 2:00 - 3:00	7 3:00 - 4:00
Mo	AT Mahendra Salvi	VD Zuber Khan	AR&NC Ramdayal Kumawat		CAM Udai Singh Chauhan	COLB01 AT LAB Mahendra Salvi	
Tu	VD Zuber Khan	AR&NC Ramdayal Kumawat	MV&NC Anand Balkrishnan		AT Mahendra Salvi	IRA Md. Sabir	CAM Udai Singh Chauhan
We	CAM Udai Singh Chauhan	AR&NC Ramdayal Kumawat	IRA Md. Sabir		MV&NC Anand Balkrishnan	A1LB05 IRA LAB Md. Sabir	
Th	MV&NC Anand Balkrishnan	AT Mahendra Salvi	IRA Md. Sabir		VD Zuber Khan	COLB01 VIB LAB Zuber Khan	
Fr	VD Zuber Khan	IRA Md. Sabir	MV&NC Anand Balkrishnan			PS-1 Dr. Deepak Paliwal	
Sa	MV&NC Anand Balkrishnan	AR&NC Ramdayal Kumawat	CAM Udai Singh Chauhan			PT&IV K.S.Rahi	

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aSc Timetables

GEETANJALI INSTITUTE OF TECHNICAL STUDIES, DABOK
CE III Sem

Class teacher : GAURAV SHARMA, NARENDRA PALIWAL
D2LT01

	1 9:00 - 10:00	2 10:00 - 11:00	3 11:00 - 12:00	4 12:00 - 1:00	5 1:00 - 2:00	6 2:00 - 3:00	7 3:00 - 4:00
Mo	AEM Dr. Gajendra Pal Singh	EG Kritesh Chouhan	FM NARENDRA PALIWAL		Surveying Rajanikant Suthar	DOLB03 Group 1 Geology Lab Jagdish Lohar D2LB01 Group 2 CAD Lab OM KRISHNA SHARMA	
Tu	AEM Dr. Gajendra Pal Singh	EM Jagdish Lohar	TC Anjali Dhabhai		Surveying Rajanikant Suthar	DOLB04 Group 1 CEM LAB OM KRISHNA SHARMA DOLB03 Group 2 Geology Lab Jagdish Lohar	
We	EM Jagdish Lohar	Surveying Rajanikant Suthar	EG Kritesh Chouhan		AEM Dr. Gajendra Pal Singh	D2LB01 Group 1 CAD Lab OM KRISHNA SHARMA D2LB03 Group 2 Surveying Lab Rajanikant Suthar	
Th	BMC OM KRISHNA SHARMA	FM NARENDRA PALIWAL	TC Anjali Dhabhai		AEM Dr. Gajendra Pal Singh	D2LB03 Group 1 Surveying Lab Rajanikant Suthar DOLB05 Group 2 FM LAB NARENDRA PALIWAL	
Fr	Surveying Rajanikant Suthar	DOLB05 Group 1 FM LAB NARENDRA PALIWAL DOLB04 Group 2 CEM LAB OM KRISHNA SHARMA			EM Jagdish Lohar	BMC OM KRISHNA SHARMA	FM NARENDRA PALIWAL
Sa	EM Jagdish Lohar	FM NARENDRA PALIWAL	BMC OM KRISHNA SHARMA			Technical Training GS / NP	

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aSc Timetables

GEETANJALI INSTITUTE OF TECHNICAL STUDIES, DABOK

CE V Sem

Class teacher : Ajay Nagda, Jagdish Lohar, Denish Jangeed

D3LT01

	1 9:00 - 10:00	2 10:00 - 11:00	3 11:00 - 12:00	4 12:00 - 1:00	5 1:00 - 2:00	6 2:00 - 3:00	7 3:00 - 4:00
Mo	DM NARENDRA PALIWAL	DOCS GAURAV SHARMA	SA-I Jagdish Lohar		D3SH01 IT Denish Jangeed	R & RS Ajay Nagda	GTE Kritesh Chouhan
Tu	DOCS GAURAV SHARMA	DM NARENDRA PALIWAL	WRE Denish Jangeed		SA-I Jagdish Lohar	Group 1 WRE LAB Denish Jangeed D0LB02 Group 2 GTE LAB Kritesh Chouhan	
We	GTE Kritesh Chouhan	DOCS GAURAV SHARMA	CTE OM KRISHNA SHARMA		WRE Denish Jangeed	SA-I Jagdish Lohar	DM NARENDRA PALIWAL
Th	R & RS Ajay Nagda	GTE Kritesh Chouhan	CTE OM KRISHNA SHARMA		DOCS GAURAV SHARMA	D0LB02 Group 1 GTE LAB Kritesh Chouhan D2LT01 Group 2 DOCS LAB GAURAV SHARMA	
Fr	WRE Denish Jangeed	GTE Kritesh Chouhan	R & RS Ajay Nagda		DM NARENDRA PALIWAL	D2LB02 Group 1 DOCS LAB GAURAV SHARMA Group 2 WRE LAB Denish Jangeed	
Sa	CTE OM KRISHNA SHARMA	WRE Denish Jangeed	SA-I Jagdish Lohar			Technical Training DJ / JL / Ajay Nagda	

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aSc Timetables

GEETANJALI INSTITUTE OF TECHNICAL STUDIES, DABOK

CE VII Sem

Class teacher : OM KRISHNA SHARMA, Kritesh Chouhan

D2CR01

	1 9:00 - 10:00	2 10:00 - 11:00	3 11:00 - 12:00	4 12:00 - 1:00	5 1:00 - 2:00	6 2:00 - 3:00	7 3:00 - 4:00
Mo	TE-II OM KRISHNA SHARMA	DSS Dr. Manish Varma	WRE-I Denish Jangeed		ANMCE Dr. Rekha Lahoti	Group 1 DWRS Lab Denish Jangeed D2LT01 Group 2 CSD Lab-II GAURAV SHARMA	
Tu	ANMCE Dr. Rekha Lahoti	DSS Dr. Manish Varma	ATE Kritesh Chouhan		TE-II OM KRISHNA SHARMA	Project 1 Dr. Manish Varma / Rajanikant Suthar	
We	TE-II OM KRISHNA SHARMA	DSS Dr. Manish Varma	WRE-I Denish Jangeed		ATE Kritesh Chouhan	Group 1 CSD Lab-II GAURAV SHARMA D2LT01 Group 2 DWRS Lab Denish Jangeed	
Th	DOCS-II GAURAV SHARMA	WRE-I Denish Jangeed	ANMCE Dr. Rekha Lahoti		TE-II OM KRISHNA SHARMA	D2LB01 Group 1 ANMCE Lab Jagdish Lohar Group 2 SSD Lab-I Dr. Manish Varma	
Fr	ANMCE Dr. Rekha Lahoti	DOCS-II GAURAV SHARMA	DOCS-II GAURAV SHARMA		WRE-I Denish Jangeed	Group 1 SSD Lab-I Dr. Manish Varma D2LB01 Group 2 ANMCE Lab Jagdish Lohar	
Sa	ATE Kritesh Chouhan	DOCS-II GAURAV SHARMA	DSS Dr. Manish Varma		D3SH01	PT&IV Kritesh Chouhan / OKS	

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aSc Timetables

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GEETANJALI INSTITUTE OF TECHNICAL STUDIES, DABOK
MCA SEM I

A2CR08

	1 9:00 - 10:00	2 10:00 - 11:00	3 11:00 - 12:00	4 12:00 - 1:00	5 1:00 - 2:00	6 2:00 - 3:00	7 3:00 - 4:00
Mo	AFM Jitendra Charan	C & C++ Hemant Sahu	OS Dr. Manish Saraswat	: ..	CA Saurabh Porwal	A2LB01 CPP Lab	Hemant Sahu
Tu	OS Dr. Manish Saraswat	AFM Jitendra Charan	DM Dr. Gajendra Pal Singh		Comm. Skill Anjali Dhabhai	A2LB01 OM LAB	Dinesh Yadav
We	Comm. Skill Dr.Deepika Sahu	C & C++ Hemant Sahu	CA Saurabh Porwal		OS Dr. Manish Saraswat	A2LB01 CPP Lab	Hemant Sahu
Th	OS Dr. Manish Saraswat	Comm. Skill Dr.Deepika Sahu	DM Dr. Gajendra Pal Singh		C & C++ Hemant Sahu	A1LB05 MP LAB	Saurabh Porwal
Fr	AFM Jitendra Charan	CA Saurabh Porwal	DM Dr. Gajendra Pal Singh	: ..	Comm. Skill Anjali Dhabhai	A1LB05 MP LAB	Saurabh Porwal
Sa	CA Saurabh Porwal	C & C++ Hemant Sahu	DM Dr. Gajendra Pal Singh		AFM Jitendra Charan	A2LB01 OM LAB	Dinesh Yadav

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aSc Timetables

GEETANJALI INSTITUTE OF TECHNICAL STUDIES, DABOK
MCA SEM III

A2CR07

	1 9:00 - 10:00	2 10:00 - 11:00	3 11:00 - 12:00	4 12:00 - 1:00	5 1:00 - 2:00	6 2:00 - 3:00	7 3:00 - 4:00
Mo	ToC Dinesh Yadav	A2LB01 JAVA LAB	Mukesh Chaudhary		WTD Mukesh Chaudhary	A2LB02 ADBMS LAB	Dr. Manish Saraswat
Tu	CG Chintal Patel	JT Mukesh Chaudhary	ADBMS Dr. Manish Saraswat	: ..	WTD Mukesh Chaudhary	A2LB02 CG LAB	Chintal Patel
We	WTD Mukesh Chaudhary	A2LB02 WD LAB	Mukesh Chaudhary		CG Chintal Patel	JT Mukesh Chaudhary	ADBMS Dr. Manish Saraswat
Th	ToC Dinesh Yadav	JT Mukesh Chaudhary	CG Chintal Patel		ADBMS Dr. Manish Saraswat	A2LB01 JAVA LAB	Mukesh Chaudhary
Fr	ToC Dinesh Yadav	A2LB02 ADBMS LAB	Dr. Manish Saraswat		JT Mukesh Chaudhary	A2LB02 CG LAB	Chintal Patel
Sa	ToC Dinesh Yadav	WTD Mukesh Chaudhary	CG Chintal Patel		ADBMS Dr. Manish Saraswat	A2LB02 WD LAB	Mukesh Chaudhary

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aSc Timetables

GEETANJALI INSTITUTE OF TECHNICAL STUDIES, DABOK
MCA SEM V

A2CR09

	1 9:00 - 10:00	2 10:00 - 11:00	3 11:00 - 12:00	4 12:00 - 1:00	5 1:00 - 2:00	6 2:00 - 3:00	7 3:00 - 4:00
Mo	CCSOA Dr. Manish Saraswat	WCT Anurag Paliwal	ADOA Chintal Patel		BDTA Dinesh Yadav	A1LB01 WCT LAB	 Anurag Paliwal
Tu	BDTA Dinesh Yadav	A1LB01 WCT LAB	 Anurag Paliwal		A2SH01 DBICS Hemant Sahu	A2SH01 Seminar	 Hemant Sahu
We	CCSOA Dr. Manish Saraswat	A2LB01 MA LAB	 Dinesh Yadav		WCT Anurag Paliwal	A2LB02 ADA Lab	 Chintal Patel
Th	A2SH01 DBICS Hemant Sahu	BDTA Dinesh Yadav	CCSOA Dr. Manish Saraswat		ADOA Chintal Patel	A2LB02 ADA Lab	 Chintal Patel
Fr	CCSOA Dr. Manish Saraswat	ADOA Chintal Patel	WCT Anurag Paliwal		A2SH01 DBICS Hemant Sahu	A2LB01 MA LAB	 Dinesh Yadav
Sa	A2SH01 DBICS Hemant Sahu	WCT Anurag Paliwal	BDTA Dinesh Yadav		ADOA Chintal Patel	A2SH01 Seminar	 Hemant Sahu

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GEETANJALI INSTITUTE OF TECHNICAL STUDIES

(Approved by AICTE, New Delhi and Affiliated to Rajasthan Technical University Kota(Raj.))

DABOK, UDAIPUR, RAJASTHAN 313022

COURSE-PLAN

UNIT	Lect. No.	TOPICS	Teaching Methods/ Teaching Aids	Date of Plan	Actual Date of Delivery
I	1	Introduction Objective, scope and outcome of the course	L/WB	15-07-2019	16-07-19
I	2	Basic Structure of Computers, Functional units	L/WB	16-07-2019	17-07-19
I	3	Software, Performance issues Software	L/WB	17-07-2019	22-07-19
I	4	Machine instructions and programs	L/PPT	20-07-2019	23-07-19
I	5	Types of instructions,	L/PPT	22-07-2019	24-07-19
I	6	Instruction sets	L/WB	23-07-2019	26-07-19
I	7	Instruction formats	L/WB	24-07-2019	29-07-19
I	8	Assembly language	L/WB	27-07-2019	30-07-19
I	9	Stacks, Ques, Subroutines	L/WB	29-07-2019	31-07-19
II	10	Processor organization, Information representation	L/WB	30-07-2019	05-08-19
II	11	Number formats	L/WB	31-07-2019	07-08-19
II	12	Multiplication	L/WB	03-08-2019	09-08-19
II	13	Division	L/WB	05-08-2019	19-08-19
II	14	ALU design,	L/PPT	06-08-2019	20-08-19
II	15	Floating Point arithmetic	L/WB	07-08-2019	23-08-19
II	16	IEEE 754 floating point formats	L/WB	13-08-2019	26-08-19
III	17	Control Design	L/WB	14-08-2019	09-09-19
III	18	Instruction sequencing, Interpretation	L/WB	17-08-2019	11-09-19
III	19	Hard wired Control Design methods	L/WB	19-08-2019	12-09-19
III	20	CPU control unit	L/WB	20-08-2019	16-09-19
III	21	Micro programmed Control - Basic concepts	L/WB	21-08-2019	17-09-19
III	22	minimizing microinstruction size	L/WB	26-08-2019	18-09-19
III	23	multiplier control unit	L/WB	27-08-2019	21-09-19
III	24	Micro programmed computers - CPU control unit	L/WB	03-09-2019	23-09-19
IV	25	Memory organizations, device characteristics	L/WB	04-09-2019	24-09-19
IV	26	RAM, ROM	L/PPT	07-09-2019	25-09-19
IV	27	Memory management, Concept of Cache	L/WB	09-09-2019	28-09-19
IV	28	associative memories	L/WB	10-09-2019	30-09-19
IV	29	Virtual memory	L/WB	11-09-2019	01-10-19
V	30	System organization- Input - Output systems	L/WB	14-09-2019	03-10-19
V	31	Interrupt	L/WB	16-09-2019	05-10-19
V	32	DMA, Standard I/O interfaces	L/PPT	17-09-2019	09-10-19
V	33	Concept of parallel processing, Forms of parallel processing	L/WB	18-09-2019	09-10-19
V	34	Pipelining	L/WB	21-09-2019	14-10-19
V	35	Interconnect network	L/WB	23-09-2019	15-10-19

Signature of Faculty:

Name of faculty: Ravi Teli

Subject with Code: 4EC3-01 Computer Architecture
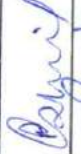
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Geetanjali Institute of Technical Studies
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Signature of HOD

NBA CODE: CO353-01

Geetanjali Institute of Technical Studies

Department of Electronics and Communication

Course Progress Report (II Year, III Sem) (02-07-19 to 24-10-19)

S.No.	Subject Name	Subject Code	No. of Lectures Reqd as per lecture plan	Lectures taken till date Date	Course Covered in (%)	Course will be completed by Date	No. of Extra Periods Reqd	Name of Faculty	Signature
1	Advanced Engineering Mathematics-I	3EC2-01	45	44	90%	EOS	Nil	Dr. Rekha Lahoti	
2	Managerial Economics and Financial Accounting	3EC1-03	35	24	92%	EOS	NIL	Mr. Lokesh Mali	
3	Digital System Design	3EC4-04	40	42	95%	EOS	Nil	Mr. Saurabh Porwal	
4	Signal & Systems	3EC4-05	40	42	95%	EOS	Nil	Mr. Saurabh Porwal	
5	Network Theory	3EC4-06	40	42	97%	EOS	Nil	Mr. Rahul Moud	
6	Electronics Devices	3EC4-07	40	46	95%	EOS	NIL	Mr. Ronak Shrimal	
7	Electronics Devices Lab	3EC4-21	10	09	100%	EOS	NIL	Mr. Ronak Shrimal	
8	Digital System Design Lab	3EC4-22	07	06	90%	EOS	Nil	Mr. Saurabh Porwal	
9	Signal Processing Lab	3EC4-23	08	08	100%	EOS	Nil	Mr. Saurabh Porwal	
10	Computer Programming Lab-I	3EC3-24						Ms. Ruchi Vyas	

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Geetanjali Institute of Technical Studies

Department of Electronics and Communication

Course Progress Report (II Year, III Sem) (02-07-19 to 30-09-19)

S.No.	Subject Name	Subject Code	No. of Lectures Reqd as per lecture plan	Lectures taken till date Date	Course Covered in (%)	Course will be completed by Date	No. of Extra Periods Reqd	Name of Faculty	Signature
1	Advanced Engineering Mathematics-I	3EC2-01	45	36	76%	EoS	No	Dr. Rekha Lahoti	
2	Managerial Economics and Financial Accounting	3EC1-03	35	19	80%	EoS	No	Mr. Lokesh Mali	
3	Digital System Design	3EC4-04	42	38	75%	EoS	02	Mr. Saurabh Porwal	
4	Signal & Systems	3EC4-05	40	35	75%	EoS	02	Mr. Saurabh Porwal	
5	Network Theory	3EC4-06	42	37	88%	EoS	02	Mr. Rahul Moud	
6	Electronics Devices	3EC4-07	45	42	85%	EoS	nil	Mr. Ronak Shrimal	
7	Electronics Devices Lab	3EC4-21	10	8	100%	EoS	nil	Mr. Ronak Shrimal	
8	Digital System Design Lab	3EC4-22	7	5	75%	EoS	Nil	Mr. Saurabh Porwal	
9	Signal Processing Lab	3EC4-23	7	5	75%	EoS	Nil	Mr. Saurabh Porwal	
10	Computer Programming Lab-I	3EC3-24						Ms. Ruchi Vyas	

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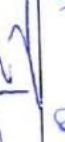# Geetanjali Institute of Technical Studies
Department of Electronics and Communication
Course Progress Report (III Year, V Sem) (15-07-19 to 30-09-19)

S.No.	Subject Name	Subject Code	No. of Lectures Reqd as per lecture plan	Lectures taken till date Date	Course Covered in (%)	Course will be completed by Date	No. of Extra Periods Reqd	Name of Faculty	Signature
1	Computer Architecture	5EC3-01	35	27	65%	EOS	NIL	Mr. Ravi Teli	
2	Electromagnetics Waves	5EC4-02	40	33	80%	EOS	–	Mr. Rahul Moud	
3	Control system	5EC4-03	42	28	58%	EOS	06	Ms. Tina Bhati	
4	Digital Signal Processing	5EC4-04	40	29	65%	EOS	NIL	Ms. Meena Kushwaha	
5	Microwave Theory & Techniques	5EC4-05	40	34	98%	EOS	Nil	Mr. Md. Sabir	
6	Bio-Medical Electronics	5EC5-11	28	22	90%	15 OCT 2019	NIL	Dr. Anurag Paliwal	
7	RF Simulation Lab	5EC4-21	11	10	96%	EOS	Nil	Mr. Md. Sabir	
8	Digital Signal Processing Lab	5EC4-22	6	4	70%	EOS	Nil	Mr. Saurabh Porwal	
9	Microwave Lab	5EC4-23	6	5	83.3%	EOS	Nil	Mr. Md. Sabir	
10	Industrial Training	5EC7-30						Prof. Rajeev Mathur	

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Geetanjali Institute of Technical Studies
Department of Electronics and Communication
Course Progress Report (IV Year VII Sem) (02-07-19 to 30-09-19)

S.No.	Subject Name	Subject Code	No. of Lectures Reqd as per lecture plan	Lectures taken till date Date	Course Covered in (%)	Course will be completed by Date	No. of Extra Periods Reqd	Name of Faculty	Signature
1	Antenna & Wave Propagation	7EC1A	36	25	80%	EoS	NIL	Prof. Rajeev Mathur	
2	Digital Signal Processing	7EC2A	40	25	80%	EOS	NIL	Ms. Meena Kushwaha	
3	Digital Image Processing	7EC3A	40	20	80%	EoS	3	Prof. Rajeev Mathur	
4	Wireless Communication	7EC4A	40	23	80%	EoS	NIL	Mr. Ronak Shrimal	
5	VLSI Design	7EC5A	40	28	80%	EoS	NIL	Dr. Vijendra Maurya	
6	VHDL	7EC6A						Mr. Latif Khan	
7	Signal & Image Processing Lab	7EC7A	09	06	66%	EoS	NIL	Ms. Meena Kushwaha / Mr. Ravi Teli	
8	Wireless Communication Lab	7EC8A	10	05	65%	EoS	NIL	Dr. Anurag Paliwal	
9	Practical Training & Industrial Visit	7EC9A	5	2	20%	EoS	NIL	Mr. Saurabh Porwal / Mr. Rahul Moud	
10	Project-I	7EC10A						Prof. Rajeev Mathur	

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Geetanjali Institute of Technical Studies
Department of Electronics and Communication
Course Progress Report (II Year, III Sem) (02-07-19 to 31-08-19)

S.No.	Subject Name	Subject Code	No. of Lectures Reqd as per lecture plan	Lectures taken till date Date	Course Covered in (%)	Course will be completed by Date	No. of Extra Periods Reqd	Name of Faculty	Signature
1	Advanced Engineering Mathematics-I	3EC2-01	40	25	48%	EOS	03	Dr. Rekha Lahoti	
2	Managerial Economics and Financial Accounting	3EC1-03	35	13	40%	EOS	05	Mr. Lokesh Mali	
3	Digital System Design	3EC4-04	40	29	50%	EOD	05	Mr. Saurabh Porwal	
4	Signal & Systems	3EC4-05	40	25	50%	EOD	03	Mr. Saurabh Porwal	
5	Network Theory	3EC4-06	36	22	50%	EOS	NIL	Mr. Rahul Moud	
6	Electronics Devices	3EC4-07	40	25	50%	EOS	NIL	Mr. Ronak Shrimal	
7	Electronics Devices Lab	3EC4-21	10	05	50%	EOS	NIL	Mr. Ronak Shrimal	
8	Digital System Design Lab	3EC4-22	08	03	40%	EOD	01	Mr. Saurabh Porwal	
9	Signal Processing Lab	3EC4-23	08	03	40%	EOD	NIL	Mr. Saurabh Porwal	
10	Computer Programming Lab-I	3EC3-24	10	05	40%	EOS	NIL	Ms. Ruchi Vyas	

Geetanjali Institute of Technical Studies
Department of Electronics and Communication
Course Progress Report (III Year, V Sem) (15-07-19 to 31-08-19)

S.No.	Subject Name	Subject Code	No. of Lectures Reqd as per lecture plan	Lectures Taken till date Date	Course Covered in (%)	Course will be completed by Date	No. of Extra Periods Reqd	Name of Faculty	Signature
1	Computer Architecture	5EC 3-01	28	15	40%	EoS	NIL	Mr. Ravi Teli	
2	Electromagnetics Waves	5EC 4-02	34	16	40%	EoS	NIL	Mr. Rahul Moud	
3	Control system	5EC 4-03	50	16	25%	EoS	8	Ms. Tina Bhati	
4	Digital Signal Processing	5EC 4-04	40	17	40%	EoS	NIL	Ms. Meena Kushwaha	
5	Microwave Theory & Techniques	5EC 4-05	36	16	40%	EoS	NIL	Mr. Md. Sabir	
6	Bio-Medical Electronics	5EC 5-11	28	12	45%	EoS	NIL.	Dr. Anurag Paliwal	
7	RF Simulation Lab	5EC 4-21	08	03	40%	EoS	NIL	Mr. Md. Sabir / Mr. Ronak Shrimal	
8	Digital Signal Processing Lab	5EC 4-22	08	03	45%	EoD	NIl	Mr. Saurabh Porwal	
9	Microwave Lab	5EC 4-23	04	03	40%	EoS	NIL	Mr. Md. Sabir	
10	Industrial Training	5EC 7-30						Prof. Rajeev Mathur	

Geetanjali Institute of Technical Studies
Department of Electronics and Communication
Course Progress Report (IV Year VII Sem) (02-07-19 to 31-08-19)

S.No.	Subject Name	Subject Code	No. of Lectures Reqd as per lecture plan	Lectures taken till date Date	Course Covered in (%)	Course will be completed by Date	No. of Extra Periods Reqd	Name of Faculty	Signature
1	Antenna & Wave Propagation	7EC1A	40	14	45%	EoS	NIL	Prof. Rajeev Mathur	
2	Digital Signal Processing	7EC2A	40	12	40%	EoS	NIL	Ms. Meena Kushwaha	
3	Digital Image Processing	7EC3A	38	11	35%	EoS	NIL	Prof. Rajeev Mathur	
4	Wireless Communication	7EC4A	40	09	36%	EoS	NIL	Mr. Ronak Shrimal	
5	VLSI Design	7EC5A	35	13	40%	EoS	NIL	Dr. Vijendra Maurya	
6	VHDL	7EC6A	40	10	35%	EoS	NIL	Mr. Latif Khan	
7	Signal & Image Processing Lab	7EC7A	09	01	10%	EoS	NIL	Ms. Meena Kushwaha / Mr. Ravi Teli	
8	Wireless Communication Lab	7EC8A	10	01	10%	EoS.	NL.	Dr. Anurag Paliwal	
9	Practical Training & Industrial Visit	7EC9A	08	01	10%	EoS	N.1	Mr. Saurabh Porwal / Mr. Rahul Moud	
10	Project-I	7EC10A	-	-	-	-	-	Prof. Rajeev Mathur	

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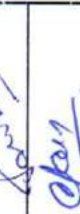## Department of Electronics and Communication
Course Progress Report (IV Year VII Sem) (02-07-19 to 31-07-19)

S.No.	Subject Name	Subject Code	No. of Lectures Reqd as per lecture plan	Lectures taken till date Date	Course Covered in (%)	Course will be completed by Date	No. of Extra Periods Reqd	Name of Faculty	Signature
1	Antenna & Wave Propagation	7EC1A	38	05	20%	EoS	NO	Prof. Rajeev Mathur	
2	Digital Signal Processing	7EC2A	38	04	15%	EOS	No	Ms. Meena Kushwaha	
3	Digital Image Processing	7EC3A	38	05	15	EOS	NO	Mr. Ravi Teli	
4	Wireless Communication	7EC4A	38	05	15%	EoS	NO	Mr.Ronak Shrimal	
5	VLSI Design	7EC5A	38	04	12	EOD	NO	Dr. Vijendra Maurya	
6	VHDL	7EC6A	40	04	12	EOD	NO	Mr. Latif Khan.	
7	Signal & Image Processing Lab	7EC7A	09	01	10%	EOS	NO	Mr. Ravi Teli	
8	Wireless Communication Lab	7EC8A	10	01	16%	EoS	No	Dr. Anurag Paliwal	
9	Practical Training & Industrial Visit	7EC9A	12	00	00	EoS	No.	Dr. Anurag Paliwal	
10	Project-1	7EC10A	10	01	-NA	EoS	No	Prof. Rajeev Mathur	

Sent to Dean (Acad)

Geetanjali Institute of Technical Studies

Department of Electronics and Communication

Course Progress Report (III Year, V Sem) (15-07-19 to 31-07-19)

S.No.	Subject Name	Subject Code	No. of Lectures Reqd as per lecture plan	Lectures taken till date Date	Course Covered in (%)	Course will be completed by Date	No. of Extra Periods Reqd	Name of Faculty	Signature
1	Computer Architecture	5EC 3-01	28	08	20%	EOS	No	Mr. Ravi Teli	
2	Electromagnetics Waves	5EC 4-02	32	06	20%	Eos	No	Mr. Rahul moud	
3	Control system	5EC 4-03	50	09	8%	EOS	YES	Ms. Tina Bhati	
4	Digital Signal Processing	5EC 4-04	40	10	18%	Eos	No	Ms. Meena Kushwaha	
5	Microwave Theory & Techniques	5EC 4-05	42	08	20	Eos	No	Mr. Md. Sabir	
6	Bio-Medical Electronics	5EC 5-11	28	07	20%	Eos.	No	Dr. Anurag Paliwal	
7	RF Simulation Lab	5EC 4-21	10	02	20%	Eos	No	Mr. Md. Sabir / Mr. Roank shrimal'	
8	Digital Signal Processing Lab	5EC 4-22	10	01	10%	Eos	No	Mr. Naveen Jain / Ms. Meena Kushwaha	
9	Microwave Lab	5EC 4-23	10	02	20%	Eos	No	Mr. Md. Sabir	
10	Industrial Training	5EC 7-30	10	01	MA	- Eos	NA	Prof. Rajeev Mathur	

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Geetanjali Institute of Technical Studies

Department of Electronics and Communication

Course Progress Report (II Year, III Sem) (02-07-19 to 31-07-19)

S.No.	Subject Name	Subject Code	No. of Lectures Reqd as per lecture plan	Lectures taken till date Date	Course Covered in (%)	Course will be completed by Date	No. of Extra Periods Reqd	Name of Faculty	Signature
1	Advanced Engineering Mathematics-I	3EC2-01	40	18	25%	EoS	04	Dr. Mr. Gajendra Pal Singh	
2	Managerial Economics and Financial Accounting	3EC1-03	35	10	30%	EoS	NIL	Mr. Lokesh Mali	
3	Digital System Design	3EC4-04	40	18	35%	EoS	05	Mr. Saurabh Porwal	
4	Signal & Systems	3EC4-05	40	19	35%	EoS	NIL	Mr. Naveen Jain	
5	Network Theory	3EC4-06	36	15	35%	EoS	NIL	Mr. Rahul Moud	
6	Electronics Devices	3EC4-07	40	17	30%	EoS	NIL	Mr. Ronak Shrimal	
7	Electronics Devices Lab	3EC4-21	10	03	12%	EoS	NIL	Mr. Ronak Shrimal	
8	Digital System Design Lab	3EC4-22	08	02	10%	EoS	Ni1	Mr. Saurabh Porwal	
9	Signal Processing Lab	3EC4-23	10	02	10%	EoS	Nil	Mr. Naveen Jain	
10	Computer Programming Lab-I	3EC3-24	10	03	10%	EoS	NIL	Ms. Ruchi Vyas	

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