

# Post Graduate Government College for Girls, Sector 11, Chandigarh



COURAGE TO KNOW

## COMPUTER SCIENCE DEPARTMENT



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## **VISION**

Build a strong teaching environment to empower our students to be technologically adept, innovative and self-motivated to face the challenges of the changing world.

## **MISSION**

- To achieve academic excellence by imparting in-depth knowledge to the students with programming practices.
  
- To inculcate learning of the emerging technologies to pursue higher studies leading to lifelong learning.

# **FACULTY AND LAB STAFF PROFILE**

## Department Details

<b>Name of the Course</b>	<b>Year of Establishment</b>	<b>Number of seats</b>
B Sc Computer Science	2004	60

## Teaching Staff Profile

<b>Name</b>	<b>Qualification</b>	<b>Designation</b>	<b>Specialization</b>	<b>No. of Years of Experience</b>
Mr Narinder Singh	M Sc IT	Assistant Professor	DBMS (DataBase Management System)	15 years

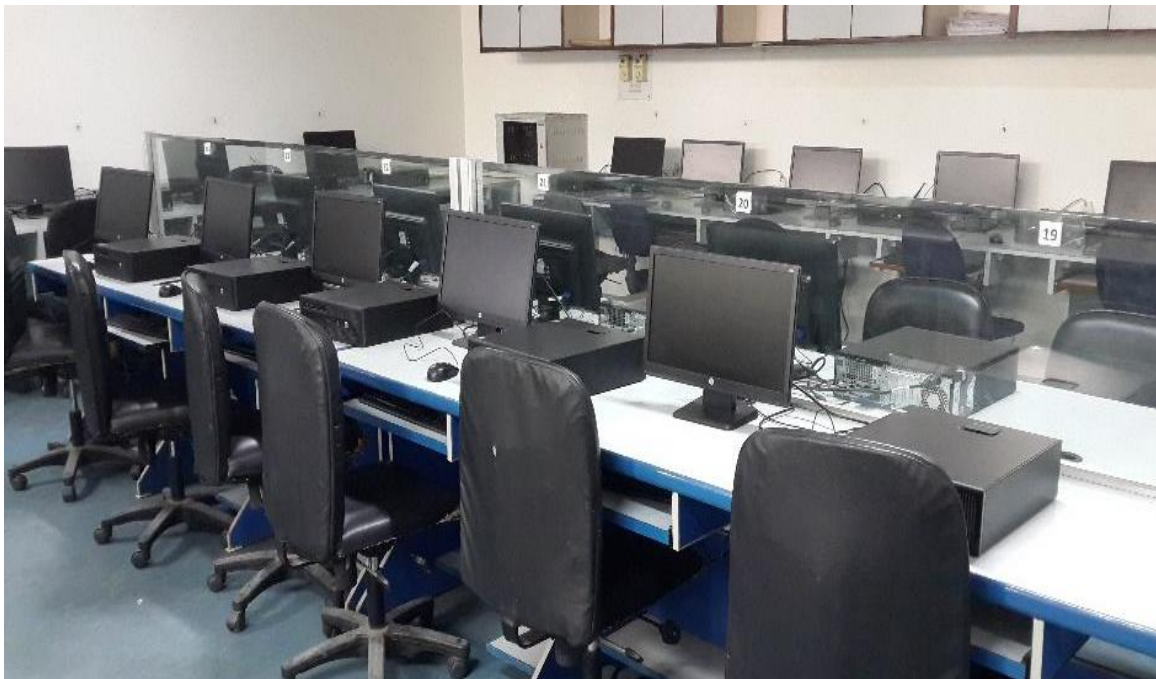
## Non-Teaching Staff Profile

<b>Name</b>	<b>Designation</b>	<b>Nature of Duty</b>
Ms Reenu	Lab Attendant	Lab Maintenance

# **INFRASTRUCTURE**

## **INFRASTRUCTURE**

- **One Smart Class Room with ICT facility.**
- **One AC Computer Lab**
  - **21 Desktop Computers (latest i7 processor with windows 10 OS)**
  - **Projector for practical demonstration**
  - **Online UPS facility**
- **Internet facilities for Staff & Students.**



# **CUT OFF PERCENTAGE**



### **B Sc Computer Science cut off percentage**

<b>Session</b>	<b>Outside UT Pool</b>	<b>UT Pool</b>
2017-18	91.0%	61.4%
2018-19	84.8%	52.2%
2019-20	87.2%	49.2%
2020-21	93.8%	66.0%
2021-22	76.6%	63.6%

**Number of Seats in the Course: 60**

# **ACHIEVEMENTS**

## a) Internship

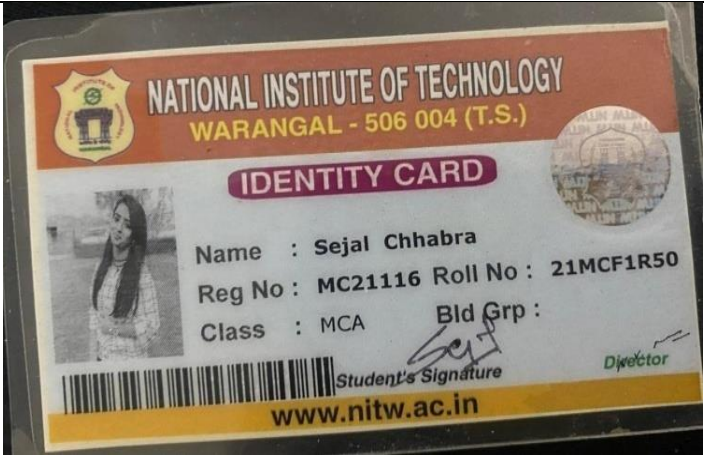
Final year students of BSc (2022-23) completed their internship on “Cyber Swachhta Mission Under Chandigarh Police in collaboration with Infosys”.




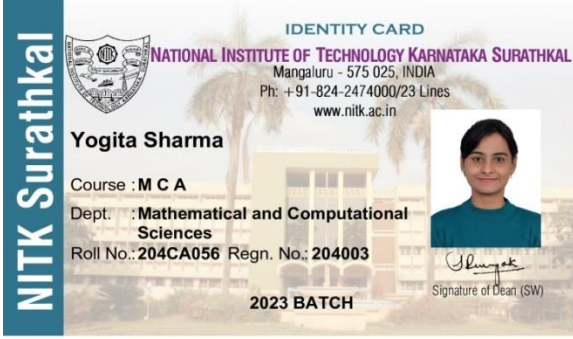
List of students doing intership.

SNo	Name	Class	Rollno
1	Lovleen Sharma	BSc III CS	1406
2	Neetika Sharma	BSc III CS	1407
3	Hiteshna Samal	BSc III CS	1409
4	Manisha	BSc III CS	1410
5	Parneet Kaur	BSc III CS	1437
6	Palak Sharma	BSc III CS	1454
7	Apeksha	BSc III CS	1455
8	Mehak deep Kaur	BSc III CS	1456








## b) Academic

<p>Shruti , Rollno 11526, got “<b>Student of the Year (UnderGraduate )</b>” Award at Annual Prize Distribution function held in May 2022.</p>	
<p>Simran Handa, Rollno 2836, Stood 4<sup>th</sup> in BSc in Panjab University Examination, held in December 2016. She has scored 300 out of 325 marks.</p>	
<p>Sejal Chabra, Rollno 7125, topped in MCA Panjab University entrance in 2021. Also cleared NIMCET to get admission in NIT.</p>	

<p>Cheshta, Rollno 5732 (2016-17) after completing BSc CS , MSc and BEd. Cleared her UGC NET 2020</p>	
<p>Sapna Rollno 8824 (2017-18), passed BSc CS and MSc IT from PGGCG-11, Chandigarh. Cleared UGC-NET in 2022</p>	
<p>Saroj , Rollno 8836, ), passed BSc CS and MSc IT from PGGCG-11, Chandigarh. Cleared UGC-NET in 2022</p>	
<p>Yogita Sharma, Rollno 2811, cleared NIMCET entrance and got admission in NIT.</p>	

## c) Extra Curricular Activities

<p>Hiteshna Samal, Rollno 1409, First in Zonal and InterZonal Fest in the category of Group Dance. Third in Inter-University in the category of Folk Dance</p>	
<p>Sweta Kumari, Rollno 1409 stood 1<sup>st</sup> in Inter Group Shooting Competition.(Best students from Punjab, Haryana, Himachal Pardesh and Chandigarh participated)</p>	
<p>Sonali, Rollno 7329, participated in EDP organized by RCED and PGGCG-11, Chandigarh.</p>	
<p>Aastha, Rollno 7125, stood 2<sup>nd</sup> in the event: World Environment Education Day- Inter University Competition held at PG Govt. College, Sector 46, Chandigarh.</p>	

<p>Simran, Rollno 4756 Stands first in Computer Science at annual prize distribution function 2019.</p>	
<p>Simran, Rollno 4756 Stands first in Punjabi subject at annual prize distribution function 2018.</p>	
<p>Simran, Rollno 4756 participated voluntarily in National Service Scheme in 2018.</p>	
<p>Sakshi Rani 4765 attended International workshop on shockwaves in Science, Engineering &amp; Medicine held at PGGCG-11, Chd in 2018</p>	
<p>Shweta, Rollno 11556 stood second in 400 m Race in Annual Athletic Meet held at PGGCG-11, Chd, in Feb 2020.</p>	

<p>Shweta, Rollno 11556 win Bronze medal in Wushu in PU Inter College Competition held in 2021-22.</p>	
<p>Balwinder kaur, Rollno 7132, participated in National Science Week Festival, held at DAV-10, Chd organized by PU and PSCST Chd.</p>	
<p>Tanu, Rollno 7105, attended Chandigarh Navel Unit Camp at Ropar in October 2022.</p>	
<p>Deepshikha, Rollno 11512, stood 1<sup>st</sup> in nukkad natak on water conservation held at PGGCG-11, Chandigarh.</p>	
<p>Swati 7106, participated in NCC Academy –Pre Vayu Sainik Camp held at Malout in August 2022</p>	



Manish, Rollno 1410, participated in online National Quiz on World Water Day 2021 organized by Govt Degree College for Woman, Jagtial, Telangana from 17-3-21 to 18-4-21. She has secured 100%.



Manish, Rollno 1410, participated in online National Quiz on Eco-System Restoratoion held at MCM DAV-36 on 5<sup>th</sup> June 2021.



Manish, Rollno 1410, scored 1<sup>st</sup> position in poster making competition on the theme “ The Advances in Nanotechnology held on 13<sup>th</sup> October 2021 at PGGCG-11, Chd.



Navneet Kaur, Rollno 7136, got 1<sup>st</sup> position in the event of Badminton in Annual Athletic Sports meet 2022.



Shruti, Rollno 11526, won 2<sup>nd</sup> prize for participating in Poster Making on the occasion of Akshya Urja Diwas, held at PGGCG-42, Chandigarh on 20<sup>th</sup> August, 2020.



# **PLACEMENTS**

## PLACEMENTS

Every year our students are placed in various companies like Infosys, TCS, Web Technologies, Teaching, banking, etc., few of the students are listed below:

Sno	Passout year	Rollno	Name	Placement
1	2018	8810	SAKSHI CHAUHAN	SCO executing cum VDE, Web Solution
2	2018	8815	PRIYANKA	Department of Tourism ,Chandigarh Administration
3	2018	8817	SHIVANI	GDS,BPM (India Post)
4	2018	8821	NEETU BISHT	Edifecs, Mohali
5	2018	8823	SANDHYA	Jr. Sales Administrator, Yakult
6	2018	8824	SAPNA	Assistant Professor, Maharaja Agrasen University
7	2018	8827	SEEMA	Oceancering International Services LTD
8	2018	8832	PAYAL JAIN	Working student , Berlin, Germany
9	2018	8836	SAROJ KUMARI	Assistant Professor, Maharaja Agrasen University
10	2018	8850	KONIKA KUMARI	Assistant Professor, ECE Chandigarh Group of Colleges
11	2018	8855	NANDNI	Trainee Web Developer, Web Arts World
12	2018	8857	GUNJAN DHAMIJA	Accountant in Water Resources Department
13	2018	8859	DIKSHA GROVER	P.G.T. Physics, Hindu Girls Sr.Sec. School, Kaithal
14	2018	8861	PRAGATI SHARMA	Junior analyst ,Course 5, Bangalore India
15	2018	8864	HARSIMRAN KAUR	Advocate, Bar Council of Punjab and Haryana
16	2019	2802	YASHVI	Medical Physics, internship at PGMIER Chandigarh
17	2019	2808	SRISHTI DEOLI	ICICI bank
18	2019	2812	SHIVANGI ARORA	Assistant Counsellor, Possible educatin PVT LTD
19	2019	2815	JYOTI	Intern Cloud and DevOps Techweek Infotech
20	2019	2817	SWATI DHAWAN	Intergral Solutions, Indore
21	2019	2822	RADHIKA KHURANA	Freelance Content Writer and copywriter PU ,CHD
22	2019	2824	BHAWNA SHARMA	Assistant Professor, Maharaja Agrasen University
23	2020	4706	BINDU	Non -Gazetted Police Officer, HP
24	2020	4710	MANPREET	WEB Designer, TRP
25	2020	4719	MEENU	Infosys (IT park chandigarh)
26	2020	4721	NANDINI	Web Developer ,Web arts world, Zirakpur
27	2020	4734	SAMREEN	Associate Digital Marketing
28	2020	4735	BHUMIKA	Jr. Software Engineer
29	2020	4754	LIZA	Steller Institute, ILETS TRAINER
30	2021	7308	PREKSHA	TCS Mumbai
31	2021	7320	CHHAVI	Hartron

# **ALUMNAE DETAILS**

## ALUMNAE DETAILS



Lt Preeti Choudhary , Rollno 11843 (2015-16) received the “**Sword of Honour**” from Officer Lieutenant General Dewan Rabindranath Soni, General Officer Commanding-in-Chief on passing-out parade (POP) at Officers Training Academy in Chennai on 10<sup>th</sup> March, 2018.

She was also awarded with “All India Second Best Airwing Cadet in NCC” by Shri Narendra Modi during Republic Day Parade, New Delhi, in 2016.

## ALUMNAE DETAILS



Ritu Nehra, Rollno 9520 (2012-15), Assistant Commandant, Border Security Forces , receiving **Sword of Honour** from Sh. Pankaj Kumar, Director General, BSF on Passing Day Parade (POP) of 45<sup>th</sup> batch on 27<sup>th</sup> October 2018. She is the 4<sup>th</sup> Female Officer in Security Forces in India.

She was also the leader of the Republic Day Parade, held at Parade Ground, Sector- 17, Chandigarh in 2015.

## ALUMNAE DETAILS



Rupinder Kaur (2013-14) presently working as a Windchill PLM in LnT Technology Services , Solution Architect, in Germany. From College placed in HCL Technologies as Technical Leader then worked at Wipro Technology Services as Senior Project Engineer.



Barbie Mangla (2013-14) working with S&P Global Market Intelligence at Gurugram. From college placed in Infosys Limited as a Quality Engineer for 4 years. Then switched to Becton Dickinson and worked there for 3 years.



Meenakshi Dixit (2012-13) working as Assistant Consultant in Tata Consultancy Services ( TCS), Gurugram. In 2013 college placement, she was placed in Tech Mahindra.



Rashmi Singla (2014-15) working as Senior Associate Consultant at Infosys, Chandigarh.



Sheenam (2009-10) junior Assistant in Health Department, Bathinda. Punjab.



Divya (2011-12), Manager in ICICI bank, Bangalore.



Teena Sharma (2011-12), Faculty, Govt Model Sr. Sec. School, Dhanas, Chd.



Daljit Kaur(2012-13), Computer faculty, Shivalik Public School, Sector 41, Chd.



Shaheen Parveen(2011-12), Radiological Safety Officer, MAX Hospital, Mohali.



Parul (2014-15), working as Medical Social Worker in PGI, Chandigarh.





Priyanka Guliani (2013-14), Faculty at Dugles college, Vancouver, Canada.



. Vaishali Mehta (2012-13) working as STEM lecturer at St. John's college, Australia



Seema Shukla ( 2013-14), Associate at SBI, Chandigarh



Anchal Bharti (2014-15) , working in Certral Forensic Science Laboratory, Chandigarh.



Mehak Dawra(2014-15) Senior Software Engineer BCG X, Gurugram.



Pooja Joshi(2015-16) Software Engineer (Android Developer) at Chicmic, Mohali.

# RESULTS

# COMPUTER SCIENCE RESULTS

## SESSION 2017-18

Semester	Appeared	Pass	I	II	III	$\geq 75$
BSc Sem 1	53	53	44	9	0	21
BSc Sem 2	51	49	38	11	0	16
BSc Sem 3	44	44	41	3	0	22
BSc Sem 4	43	43	38	5	0	24
BSc Sem 5	46	46	40	6	0	14
BSc Sem 6	46	46	35	11	0	17

## SESSION 2018-19

Semester	Appeared	Pass	I	II	III	$\geq 75$
BSc Sem 1	57	57	52	3	2	25
BSc Sem 2	56	56	51	4	1	33
BSc Sem 3	51	49	35	8	6	14
BSc Sem 4	51	51	42	7	2	22
BSc Sem 5	40	40	38	2	0	30
BSc Sem 6	40	39	35	4	0	28

## SESSION 2019-20

Semester	Appeared	Pass	I	II	III	$\geq 75$
BSc Sem 1	49	49	48	1	0	26
BSc Sem 2	49	49	47	2	0	26
BSc Sem 3	53	53	50	3	0	34
BSc Sem 4	53	53	53	0	0	53
BSc Sem 5	51	51	49	2	0	29
BSc Sem 6	51	51	51	0	0	51

**SESSION 2020-21**

<b>Semester</b>	<b>Appeared</b>	<b>Pass</b>	<b>I</b>	<b>II</b>	<b>III</b>	<b>&gt;=75</b>
BSc Sem 1	55	55	55	0	0	55
BSc Sem 2	54	54	54	0	0	54
BSc Sem 3	48	48	47	1	0	47
BSc Sem 4	48	48	47	1	0	47
BSc Sem 5	53	53	53	0	0	53
BSc Sem 6	53	53	53	0	0	53

**SESSION 2021-22**

<b>Semester</b>	<b>Appeared</b>	<b>Pass</b>	<b>I</b>	<b>II</b>	<b>III</b>	<b>&gt;=75</b>
BSc Sem 1	45	45	45	0	0	45
BSc Sem 2	42	37	30	7	0	8
BSc Sem 3	54	54	54	0	0	53
BSc Sem 4	54	54	54	0	0	45
BSc Sem 5	48	48	48	0	0	48
BSc Sem 6	48	48	45	3	0	24

# **TIME TABLE**

P G GOVT COLLEGE FOR GIRLS, SEC 11, CHANDIGARH

TIME TABLE FOR THE SESSION 2017-18

SUBJECT: Computer Science

Name	I	II	III	IV	V	VI	Lectures
Narinder Singh Lect(on Contract)	BSc II CS Practical(2)		BSc II CS Th(1-2) RNo 126		BSc III CS Practical (1-6)		21
		BSc III CS Th(1-3) RNo 126		BSc III CS Th(4-6) RNo 126			
Dalbir Singh Lect(on Contract)	BSc I CS Th(4-6) RNo 126	BSc II CS Practical(2)	BSc I CS Practical(1-6)			BSc I CS Th(1-3)RNo 126	21
	BSc II CS Practical(1)						
Resourse Person	BSc II CS Practical (3-6)				BSc II CS Th(3-6) RNo 126		12

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HOD Computer Science Department

P G GOVT COLLEGE FOR GIRLS, SEC 11, CHANDIGARH

TIME TABLE FOR THE SESSION 2018-19

SUBJECT: Computer Science

Name	I	II	III	IV	V	VI	VII	Lectures
Narinder Singh	BSc I CS Th(1, 2) Rno 126	BSc III CS Th(4-6) RNo 126		BSc III CS Th(1-3) RNo 126	BSc III CS Practical (1-6, 2x6)			20
Dalbir Singh	BSc II CS Practical (1-6, 2x6)		BSc II CS Th(4-6) RNo 126		BSc II CS Th(1-3) RNo 126			22
			BSc I CS Practical (1-2, 2x2)					
Resourse Person	BSc I CS (3) RNo 126		BSc I CS Practical ( 2x2)			BSc I CS Th (4-6)		8

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21/7/18.  
HOD Computer Science Department

## TIME TABLE 2020-21

COMPUTER SCIENCE DEPARTMENT (*online mode*)

Teacher Name	class	I	II	III	IV	V	VI	Total Lect.
		09:30-10:15	10:15-11:00	11:00-11:45	11:45-12:30	12:30-1:30	1:30-2:15	
Narinder Singh	BSc I CS			PR (1,2)	TH(3-6)			6
	BSc II CS	PR(5-6)	TH (1,2,4,5)					6
	BSc III CS			TH (3-6)		PRACTICAL (1-2)		6
								<u>18</u>

*Narinder*

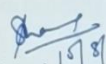
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14/8/2020  
HOD Computer Science Department



## TIME TABLE 2021-22

### COMPUTER SCIENCE DEPARTMENT

class	I	II	III	IV	V	VI	Lectures
	9:00-9:45	9:45-10:30	10:30-11:15	11:15-12:00	12:00-12:45	12:45-1:30	
BSc I CS	TH (1-6)		PR (1-6)				18
BSc II CS	PR (1-6)			TH (1-6)			18
BSc III CS			TH (1-6)		PR (1-6)		18
Total Lectures							54

  
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
15/8/21

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## TIME TABLE 2021-22

### COMPUTER SCIENCE DEPARTMENT

Teacher Name	class	I	II	III	IV	V	VI	Lectures
		9:00-9:45	9:45-10:30	10:30-11:15	11:15-12:00	12:00-12:45	12:45-1:30	
Narinder Singh	BSc I CS	TH(3-6)		PR (1,2)	PR (3,4)			8
	BSc II CS	PR(1,2)	PR(3,4)		TH (1,2,5,6)			8
	BSc III CS			TH (3-6)		PR (1-4)		8
Total Lectures								24

  
 HOD Computer Science Department

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# **SYLLABI**

# **BSc SEMESTER 1<sup>ST</sup>**

## **Paper-CS01: Computer Fundamentals**

### **UNIT – I**

Computer Appreciation: Introduction to computers, characteristics of computer; History of computers; Classification of computers on size: (Micro, Mini, Mainframe and super computers), Working Principles, Generations; Applications of computers; commonly used terms–Hardware, Software, Firmware. Basic Computer Organization: Block diagram of computer system, Input unit, Processing Unit and Output Unit; Description of Computer input devices: Keyboard, Mouse, Trackball, Pen, Touch screens, Scanner, Digital Camera; Output devices: Monitors, Printers, Plotters.

### **UNIT –II**

Computer Memory: Representation of information: BIT, BYTE, Memory, Memory size; Units of measurement of storage; Main memory: main memory organization, RAM, ROM, PROM, EPROM; Secondary storage devices: Sequential Access Memory, Direct Access Memory Magnetic Tapes, Magnetic disks, Optical disks: CD, DVD; Memory storage devices: Flash Drive, Memory card;

### **UNIT – III**

Types of software: System and Application software; Programming Languages: Generation of Languages; Translators - Interpreters, Compilers, Assemblers and their comparison. Range of Applications: Scientific, Word Processing, Spread Sheets, E-commerce, Business, Educational, Industrial, National level weather forecasting, Remote Sensing, Planning Multilingual Applications.

### **UNIT – IV**

Operating Systems: Components of Operating System; Functions of Operating System; Types of Operating System; Linux/Dos/Windows.Computers and Communication: Single user, multi-user, workstation, and client server systems. Computer networks, Network protocols. LAN, WAN, Services offered by Internet.

## **Paper-CS02: PC Software**

### **UNIT – I**

Concept of files and directories; Disk Operating System: DOS, System Files, types of DOS commands: Internal and External commands: Introduction to AUTOEXEC.BAT, Directory commands: XCOPY, DEL, RENAME, ATTRIB, BACKUP, RESTORE, FIND, SYS; General commands: TYPE, DATE, TIME, PROMPT; Batch Files, Wild Cards, Line Editor

### **UNIT – II**

Introduction to graphical user interface, window operating system, Anatomy of windows, organizing folders and files, recycle bin, my computer, windows explorer, control panel.

### **UNIT – III**

Word Processing :Basics of Word Processing; Opening, Creating, Saving, Printing and Quitting Documents, Using the Interface (Menu Toolbars), Editing Text (Copy, Delete, Move), Finding and Replacing Text, Spell Check, Autocorrect; Auto Text, Character formatting, Page formatting; Document Enhancement; Adding Borders and shading, Adding Headers and Footers, Setting up Multiple columns, Sorting blocks, Adjusting Margins and Hyphenating Documents, Creating Master Documents, Creating Data Source, Merging Documents, Using Mail merge feature for labels and envelopes; Inserting Pictures, Tables, Working with equations.

### **UNIT – IV**

Spread Sheet :Worksheet overview, Row, Column, Cells, Menus, Creating Worksheet, Opening, Saving, Printing Worksheets; Calculations, Auto fill, Working with Formulae, Data Formatting (number formatting, date formatting), Working with Ranges, Establishing Worksheet links; Creating, Sorting and Filtering Data Base; Creating chart, Adding Titles, Legends etc. to charts, Printing Charts, Creating Macros, Record Macros, Running Macros, Assigning Macros to Buttons, Functions (Statistical, Financial, Mathematical, String, Date and Time). MS-Power Point: Creating, Saving, Printing Presentation; Selecting Design Templates, Animations and Transitions, Auto Content Wizard

## **BSc SEMESTER 2<sup>ND</sup>**

### **Paper-CS03: Operating System Concepts**

#### **UNIT - I**

Operating Systems (OS): Introduction, need of operating system and functions of operating system, Types of OS: Multi-user, Multitasking, Multiprocessing and Real time Operating Systems, Parallel systems, Distributed systems; Structure of Operating System;

#### **UNIT – II**

Process Management: Introduction to Process, PCB, Process States, CPU Scheduling: Scheduling Criteria and Algorithms: FCFS, SJF, Priority, Round Robin, Multilevel Queue Scheduling, Multilevel Feedback Queue Scheduling.

#### **UNIT - III**

Deadlocks: Introduction, Necessary and sufficient conditions for Deadlocks, Resource allocation graph, Introduction to methods for handling deadlocks, deadlock prevention, deadlock avoidance: Banker Algorithm, deadlock detection and recovery.

#### **UNIT – IV**

Memory Management: Logical vs Physical address space, Swapping, Introduction to Paging, Segmentation, Virtual Memory-Demand paging, Introduction to Page Replacement algorithms: FIFO, Optimal Page replacement and LRU

## **Paper-CS04: C Programming**

### **UNIT – I**

Programming Process: Steps in developing of a program, Data Flow Diagram, Decision Table, Algorithm development, Flowchart, Pseudo Code, Testing and Debugging. Fundamentals of C Languages: History of C, Character Set, Identifiers and Keywords, Constants, Types of C Constants, Rules for Constructing Integer, Real and character Constants, Variables, Data Types, rules for constructing variables.

### **UNIT – II**

Operators and Expressions: C Instructions, Arithmetic operators, Relational operators, Logical operators, Assignment Operators, Type Conversion in Assignments, Hierarchy of Operations, Standard and Formatted Statements, Structure of a C program, Compilation and Execution. Decision Control Structure: Decision making with IF-statement, IF-Else and Nested IF-Else, The else if Clause. Loop Control Structure: While and do-while, for loop and Nested for loop, Case Control Structure: Decision using switch, The goto statement.

### **UNIT – III**

Functions: Library functions and user defined functions, Global and Local variables, Function Declaration, Calling and definition of function, Methods of parameter passing to functions, recursion, Storage Classes in C Arrays: Introduction, Array declaration, Accessing values in an array, Initializing values in an array, Single and Two Dimensional Arrays, Initializing a 2-Dimensional Array, Memory Map of a 2-Dimensional Array, Passing array elements to a function.

### **UNIT – IV**

String Manipulation in C: Declaring and Initializing string variables, Reading and writing strings, String Handling functions (strlen(), strcpy(), strcmp(), strcat()). Structures and Unions: Declaration of structures, Structure Initialization, Accessing structure members, Union, Difference between Structure and Union

## **BSc SEMESTER 3<sup>RD</sup>**

### **Paper-CS05: Computer Organization**

#### SECTION-A

1. Representation of Information: Number system: Binary, Decimal, Hexadecimal, Octal; Conversions; integer and floating point representation, character codes (ASCII, EBCDIC), error detection and correction codes: Parity bit method, Hamming code; Boolean algebra.

#### SECTION-B

2. Basic Building Blocks: Combinatorial logic design: Gates, Half Adder, Full Adder, Encoder, Decoder, Multiplexer: Sequential Building Block: Flip-Flops, Registers, Counters: Synchronous and Asynchronous Counters, Bus.

3. Microinstructions: Register Transfer, Arithmetic, Logical and Shift Operations; Instruction: Instruction Format, Instruction Cycle; Interrupt: Interrupt types, Interrupt Cycle.

#### SECTION-C

4. Microprocessor: Architecture of 8086/8088 Processor Model; Instruction Set; Addressing Modes: Registers used in Microprocessor.

5. Assembly Language: Features of Assembly Language, Machine Language vs Assembly Language, Pseudo Instruction; use of Assembly for programs: Addition, Subtraction, Multiplication using Subroutines and Basic Input/output.

#### SECTION-D

6. System Maintenance : Introduction to various physical components of a computer, Physical Inspection and Diagnostics on PC, types of displays and other peripheral devices, installing software; Functional description of various Internal and External cards; Viruses: Types of Computer Viruses, Detection of Viruses, Protection from Viruses.



# **Paper-CS06 : Object Oriented Programming (using C++)**

## **UNIT- I**

1. Basic Concepts of Object Oriented Programming: Object, Class, Encapsulation, Data Hiding, Inheritance, Polymorphism. Analysis and design of system using Object Oriented Approach. Benefits of OOPs.
2. Structure of a C++ Program: Include files, Declaration of a class, Main function, I/O streams.
3. Classes: Class Declaration: Data Members, Member Functions, Private and Public members, data hiding and encapsulation, arrays within a class.
4. Objects: Creating Objects, Accessing class data members, Accessing member functions, Methods of passing arguments to functions.

## **UNIT II**

5. Object concepts: Arrays of Objects, Objects as function arguments: Pass by value, Pass by Reference, Pointers to Objects.
6. Functions in C++: Member function definition inside the class declaration and outside the class declaration, scope resolution operator, Private and Public member function, Nesting of member functions, Static and Friend functions.

## **UNIT III**

7. Constructors and Destructors: Constructors: Declaration and Definition, Default Constructors, Parameterized Constructors, Copy Constructors. Destructors: Definition and use.
8. Inheritance – Extending Classes : Concept of inheritance, base class, derived class, defining derived classes, visibility modes, private, public, protected; single inheritance : privately derived, publicly derived; making a protected member inheritable, access control to private and protected members by member functions of a derived class, multilevel inheritance, nesting of classes.

## **UNIT IV**

9. Polymorphism: Definition, types, function overloading, operator overloading, virtual functions, pure virtual functions.

## **BSc SEMESTER 4<sup>th</sup>**

### **Paper-CS07: Database Concepts**

#### **UNIT – I**

Basic Concepts: A Historical perspective, File Systems vs. DBMS, Characteristics of the Data Base Approach, Abstraction and Data Integration, Database users, Advantages and Disadvantages of DBMS, Implication of Database approach; Data Independence.

#### **UNIT – II**

Relational Data Model: Relational model concepts, Integrity constraints over Relations, Conventional Data Models : An overview of Network and Hierarchical Data Models. The 12 Rules (Codd's Rule) for an RDBMS; Entity Relationship model.

#### **UNIT – III**

Relational Algebra and Calculus: Storage Organization for Relations, Relational Algebra: Operations - union, intersection, difference, Cartesian product, projection, selection, division and relational algebra queries; Relational Calculus: Tuple oriented and domain oriented relational calculus and its operations.

#### **UNIT – IV**

Advance concepts: Client-Server Architecture, 3-tier Architecture of database, Distributed databases, Normalization: First, second and third Normal Form, Boyce Codd Normal Form; Database Integrity: entity and referential; Security:, Concurrency, Recovery.

## **Paper-CS08 : Data Structures**

### UNIT – I

Basic Concepts: Introduction to Complexity, Data Structure and Data Structure operations. Applications of Data Structure, Basic data Structures; Arrays: Introduction, Types of Array, Memory representation, Applications and operations. Stacks: Introduction, memory representation, Applications and operations

### UNIT – II

Linked List: Operations:-traversing, searching, inserting, deleting, operations on header linked list, circular linked list, doubly linked list, memory representation, Applications, polynomial manipulation; Queue: Introduction, Types, Memory Representation and Applications.

### UNIT – III

Trees– Definition and Basic concepts, Representation in Contiguous Storage, Binary Tree, Binary Tree Traversal, Binary Search tree; Graphs: Introduction, Memory Representation, Graph Traversal (DFS and BFS)

### UNIT – IV

Searching: Binary and Linear Search; Sorting: Bubble sort, Insertion sort, Selection sort, Merge Sort, Quick sort.

## **BSc SEMESTER 5<sup>TH</sup>**

**Paper Code: CS09      Paper Title: Project Management**

### **UNIT I**

**1. Concepts of Project Management:**

Concept of a project, Characteristic features of a project, Categories of project, Project life cycle phases, Project Management Concepts, Tools and Techniques for Project Management, Introduction of Computerised project management systems, Roles and Responsibilities of a Project Manager.

**2. Establishing the Project:**

Feasibility Report: Raw material survey, Demand study, Technical study, Location study; Financing Arrangements, Preparation of Cost Estimates, Finalisation of Project Implementation Schedule, Evaluation of the Project Profitability, Fixing the zero date.

### **UNIT II**

**3. Organizing human resource:**

Delegation, Project organization: Matrix, Task force and Totally projectized organization;

**4. Organizing the Project:**

Working of Systems, Design of Systems, Project Work System Design, Work Breakdown Structure, Project Execution Plan, Project Procedure Manual, Project Control System, Planning, Scheduling and Monitoring.

### **UNIT III**

**5. Project Directions, Coordination and Control:**

Project Direction, Communications in a Project, Project Coordination, Project Control, Scope/Progress Control, Performance Control, Schedule Control, and Cost Control.

**6. Project Management Performance:**

Performance Indicators, Performance Improvement, Project Management Environment.

### **UNIT IV**

**7. Report Writing - I:**

Characteristics of Reports, Importance of Reports, Types of Reports, Structure and layout of Reports: front matter, main body, back matter; Preparatory Steps to Writing Reports: Evaluation of material, Note making, Organising material, Principle of organisation, Making outline

**8. Report Writing- II:**

Elements of Style; Use of Illustrations: types; Writing the Report: Rough draft, Process of writing, Order of writing, Final draft, Check list for reports; Specimen Reports: technical report;

## **Paper Code: CS10      Relational Database Management System**

### **UNIT I**

- 1. Interactive SQL :** SQL commands; Data Definition Language Commands; Data Manipulation Language Commands; Data types, Insertion of data into the tables; Viewing of data from the tables; Conditional viewing of data; Deletion operations; Updating the contents of the table; Modifying the structure of the table; Renaming table; Destroying tables.
- 2. Data Constraints:** Types of Data Constraints; Column Level Constraints; Table Level Constraints; Null value concepts; The UNIQUE Constraint; The PRIMARY Constraint; The FOREIGN key Constraint; The CHECK Constraint; Viewing the User Constraint.

### **UNIT – II**

- 3. SQL Operators and Functions:** Arithmetic operators, Logical operators, Range searching, Pattern matching; Using DUAL, SYSDATE; SQL Functions: Group, Scalar, Aggregate, Numeric, String and Date Functions.
- 4. Grouping data from tables in SQL:** GroupBy, Having clause, Subqueries, Collating Information: Equi Joins, Cartesian Joins, Outer Joins, Self Joins; SET Operators: Union, Intersect, Minus; Nested Queries.

### **UNIT III**

- 5. Indexes:** Creation, Types, Dropping an index; Introduction to Views, Manipulating the Base table(s) through views, Rules of DML Statements on Join Views, Dropping a View, Inline Views, Materialized Views.
- 6. Sequences:** Creation, Reference and Alteration; Database Security and Privileges: Grant Command, Revoke Command, Application Privileges Management, COMMIT and ROLLBACK.

### **UNIT IV**

- 7. PL/SQL-I:** Introduction to PL/SQL, The Advantage of PL/SQL, PL/SQL block structure, PL/SQL Architecture, Fundamentals of PL/SQL, PL/SQL Data types, Variables and constants, Scope and visibility of a variable, Assignments and expressions, Operator precedence, Conditional and iterative control, SQL within PL/SQL, writing PL/SQL code.
- 8. PL/SQL-II:** Cursor management in PL/SQL, Cursor manipulation, Implicit and Explicit cursor attributes, Exceptional Handling, Subprograms in PL/SQL, Procedure, Functions, and Triggers.

## **BSc SEMESTER 6<sup>TH</sup>**

**Paper Code: CS11      Paper Title: E-Commerce**

### **UNIT I**

- 1. E-Commerce:** Introduction, History, Motivation for E-Commerce, Types of Ecommerce, Advantages, Limitations, E-Commerce applications: Business-to-consumer, Business-to-Business, Consumer-to-Business, Consumer-to-Consumer, Business-within-Business.
- 2. Internet and www:** Introduction, History, Benefits of www, Internet Service Providers, Web and Electronic commerce, Web architecture and its components, Interactive web applications, Web and database integration, Web software development tools, Search engines.

### **UNIT II**

- 3. Website designing and hosting:** Life cycle of website building, Website content and traffic management, Working of ISPs, Choosing an ISP, Choosing and registering a domain name.
- 4. Implementation and Maintenance of E-Commerce:** Implementation strategies, Maintenance strategies, Legal and Ethical issues in E-commerce.

### **UNIT III**

- 5. Payment Systems :** From Barter to money, Requirements of Internet-based payments, Electronic payment media : Credit cards, Debit cards, Smart cards, e-wallets, Issues and implications of payment systems, Latest trends in payment systems.
- 6. Marketing on the Internet:** Internet marketing techniques and cycles, Attracting and Tracking customers, Pros and cons of online marketing.

### **UNIT IV**

- 7. Firewalls and Network Security:** Types of firewall, Gateways, Proxy Servers and its advantages and disadvantages; Transaction Security: Types of transaction, Requirements for transaction, Encryption: asymmetric and symmetric encryption; Digital signatures, Digital certificates, Implementation and management issues.

**Paper Code: CS12      Paper Title: Web Programming**

**UNIT – I**

- 1. Basic Terminology :** Web Server; Web Browser, Understanding Communication between a Browser and Web Server, Webpage, Website, Static Website, Dynamic Website, Internet, Intranet, Extranet, WWW, URL.
- 2. HTML:** HTML Program Structure, Paragraph Breaks, Line Breaks; Emphasizing Text: Heading Styles, Drawing Lines; Text Styles: Bold, Italics, Underline; Other Text Effects: Centering of text and images etc; Lists: Unordered List, Ordered Lists, Definition lists; Adding Graphics to HTML Documents using the Border, Width, Height and Align; Tables: Caption Tag, Width, Border, Cell padding, Cell spacing, BGCOLOR, COLSPAN and ROWSPAN Attributes.

**UNIT – II**

- 3. Linking Documents:** Anchor tag, External Document References, Internal Document References and Image Maps; Frames: Introduction to Frames: The <FRAMESET> tag, The <FRAME> tag, Targeting Named Frames
- 4. DHTML:** Introduction to Cascading Style Sheets (CSS), Style tag, Link tag, Types of CSS: In-Line, Internal, External; Forms: Attributes of Form element: Input element, Text Element, Password, Button, Submit Button, Reset Button, Checkbox, Radio, TextArea, Select and Option.

**UNIT – III**

- 5. JavaScript:** Introduction and Features of JavaScript, Writing JavaScript into HTML, Tokens, Data Types, Variables, Operators, Control Constructs, Strings Arrays, Functions, Document Object Model, CoreLanguage Objects, Client Side Objects, Event Handling, Applications related to client side form validation, Built-In Objects in JavaScript: String Object, Math Object, Date Object;

**UNIT – IV**

- 6. Introduction to PHP :** PHP Installation and Configuration; Naming files, Comments, Variables, Operators, Arrays, Flow Control Structures, More language basics; User-defined functions; Input validation, Working with Mathematical, String, Date and Time functions

# **WEEKLY PLANNER**



**WEEKLY PLANNER FOR BSc I CS (Semester 1) (2022)**

Subject: Computer Science

<b>Weeks</b>	<b>Topics</b>
22-08-22	Computer Appreciation: Introduction to computers, characteristics of computer; History of computers; Classification of computers on size: (Micro, Mini, Mainframe and super computers),
29-08-22	Introduction to graphical user interface, window operating system, Anatomy of windows, organizing folders and files, recycle bin, my computer, windows explorer, control panel.
5-09-22	Working Principles, Generations; Applications of computers; commonly used terms—Hardware, Software, Firmware. Basic Computer Organization: Block diagram of computer system, Input unit, Processing Unit and Output Unit; Description of Computer input devices: Keyboard, Mouse, Trackball, Pen, Touch screens, Scanner, Digital Camera; Output devices: Monitors, Printers, Plotters.
12-09-22	Concept of files and directories; Disk Operating System: DOS, System Files, types of DOS commands: Internal and External commands: Introduction to AUTOEXEC.BAT, Directory commands: XCOPY, DEL, RENAME, ATTRIB, BACKUP, RESTORE, FIND, SYS;
19-09-22	General commands: TYPE, DATE, TIME, PROMPT; Batch Files, Wild Cards, Line Editor
26-09-22	Computer Memory: Representation of information: BIT, BYTE, Memory, Memory size; Units of measurement of storage; Main memory: main memory organization, RAM, ROM, PROM, EPROM; Secondary storage devices: Sequential Access Memory, Direct Access Memory Magnetic Tapes, Magnetic disks, Optical disks: CD, DVD; Memory storage devices: Flash Drive, Memory card;
3-10-22	Word Processing :Basics of Word Processing; Opening, Creating, Saving, Printing and Quitting Documents, Using the Interface (Menu Toolbars), Editing Text (Copy, Delete, Move), Finding and Replacing Text, Spell Check, Autocorrect; Auto Text, Character formatting, Page formatting; Document Enhancement;

10.10.22	MID SEMESTER EXAMINATION
17-10-22	Types of software: System and Application software; Programming Languages: Generation of Languages; Translators - Interpreters, Compilers, Assemblers and their comparison. Range of Applications: Scientific, Word Processing, Spread Sheets, E-commerce, Business, Educational, Industrial, National level weather forecasting, Remote Sensing, Planning Multilingual Applications.
24-10-22	Adding Borders and shading, Adding Headers and Footers, Setting up Multiple columns, Sorting blocks, Adjusting Margins and Hyphenating Documents,
31-11-22	Creating Master Documents, Creating Data Source, Merging Documents, Using Mail merge feature for labels and envelops; Inserting Pictures, Tables, Working with equations.
07-11-22	Operating Systems: Components of Operating System; Functions of Operating System; Types of Operating System; Linux/Dos/Windows.Computers and Communication:
14-11-22	Single user, multi-user, workstation, and client server systems. Computer networks, Network protocols. LAN, WAN, Services offered by Internet.
21-11-22	Spread Sheet :Worksheet overview, Row, Column, Cells, Menus, Creating Worksheet, Opening, Saving,Printing Worksheets; Calculations, Auto fill, Working with Formulae,
28-11-22	Data Formatting (number formatting, date formatting), Working with Ranges, EstablishingWorksheet links; Creating, Sorting and Filtering Data Base;
5-12-22	Creating chart, Adding Titles, Legends etc. to charts, Printing Charts, Creating Macros, Record Macros, Running Macros, Assigning Macros to Buttons,
12-12-22	Functions (Statistical, Financial, Mathematical, String, Date and Time). MS-Power Point: Creating, Saving, Printing Presentation; Selecting Design Templates, Animations and Transitions, Auto Content Wizard
	Final Practicals

## WEEKLY PLANNER FOR BSc I CS (Semester 2) (2022)

SUBJECT: Computer Science

Weeks	Topics
04-03-2022	Paper A: Operating Systems (OS): Introduction, need of operating system
07-03-2022	Paper A: functions of operating system
	Paper B: Programming Process: Steps in developing of a program, Data Flow Diagram, Decision Table, Algorithm development
14-03-2022	Paper A: Types of OS: Multi-user, Multitasking
	Paper B: Flowchart, Pseudo Code, Testing and Debugging
21-03-2022	Paper A: Multiprocessing and Real time Operating Systems
	Paper B: Fundamentals of C Languages: History of C, Character Set, Identifiers and Keywords, Constants, Types of C Constants
28-03-2022	Paper A: Parallel systems, Distributed systems; Structure of Operating System
	Paper B: Rules for Constructing Integer, Real and character Constants, Variables, Data Types, rules for constructing variables.
04-04-2022	Paper A: Process Management: Introduction to Process, PCB, Process States
	Paper B: Operators and Expressions: C Instructions, Arithmetic operators, Relational operators, Logical operators, Assignment Operators
11-04-2022	Paper A: CPU Scheduling: Scheduling Criteria and Algorithms
	Paper B: Type Conversion in Assignments, Hierarchy of Operations, Standard and Formatted Statements, Structure of a C program , Compilation and Execution.
18-04-2022	Paper A: Scheduling Algorithms: FCFS, SJF, Priority, Round Robin, Multilevel Queue Scheduling,
25-04-2022	Paper B: Decision Control Structure: Decision making with IF-statement, IF-Else and Nested IF-Else, The else if Clause.
02-05-2022	Paper A: Multilevel Feedback Queue Scheduling
	Paper B: Loop Control Structure: While and do-while, for loop and Nested for loop. Case Control Structure: Decision using switch, The goto statement.
09-05-2022	Paper A: Deadlocks: Introduction, Necessary and sufficient conditions for Deadlocks,
	Paper B: Functions: Library functions and user defined functions, Global and Local variables,

16-05-2022	Paper A: Resource allocation graph, Introduction to methods for handling deadlocks,
	Paper B: Function Declaration, Calling and definition of function, Methods of parameter passing to functions, recursion, Storage Classes in C.
23-05-2022	Paper A: Deadlock prevention, deadlock avoidance: Banker Algorithm,
	Paper B: Arrays: Introduction, Array declaration, Accessing values in an array, Initializing values in an array, Single and Two Dimensional Arrays, Initializing a 2-Dimensional Array,
30-05-2022	Paper A: deadlock detection and recovery.
	Paper B: Memory Map of a 2-Dimensional Array, Passing array elements to a function
06-06-2022	Paper A: Memory Management: Logical vs Physical address space, Swapping,
	Paper B: String Manipulation in C: Declaring and Initializing string variables, Reading and writing strings, String Handling functions (strlen(), strcpy(), strcmp(), strcat()).
13-06-2022	Paper A: Introduction to Paging, Segmentation, Virtual Memory-Demand paging,
	Paper B: Structures and Unions: Declaration of structures, Structure Initialization, Accessing structure members,
20-06-2022	Paper A: Introduction to Page Replacement algorithms: FIFO, Optimal Page replacement and LRU
	Paper B: Union, Difference between Structure and Union.

## WEEKLY PLANNER FOR BSc II (3<sup>rd</sup> semester) CS (2022)

SUBJECT: Computer Science.

WEEK	TOPICS
15-08-22	Data types, operators Number system, Integer and floating point representation
22-08-22	Decision making :if else, switch, goto Character Codes(ASCII,EBCDIC) , Error detection and correction codes
29-08-22	Loops: while, do while, for Parity bit method, Hamming code , Boolean algebra
5-09-22	Arrays and Structures Combinational logic design-Gates ,Half Adder, Full Adder
12-09-22	Functions: advantages and disadvantages, pass by value and pass by reference Encoder , Decoder, Multiplexer
19-09-22	Concepts of Object Oriented Programming: Object, Class, Encapsulation, Data Hiding, Inheritance, Polymorphism. Analysis and design of system using Object Oriented Approach. Flip flops, Registers
26-09-22	Structure of a C++ Program: Include files, Declaration of an object, Main function, I/O streams. Counters: Synchronous and Asynchronous, Bus,
3-10-22	Classes: Class Declaration: Data Members, Member Functions, Private and Public members, data hiding and encapsulation, arrays within a class. Objects Register transfer, Arithmetic, Logical and Shift operation
10-10-22	Creating Objects, Accessing class data members, Accessing member functions, Arrays of Objects, Objects as function arguments: Pass by value, Pass by Reference, Pointers to Objects. Instruction format and Instruction Cycle , Interrupt :Types
17-10-22	<b>MID SEMESTER EXAMINATIONS</b>
24-10-22	Functions in C++: Member function definition inside the class declaration and outside the class declaration, scope resolution operator, Private and Public member function, Nesting of member functions, Static and Friend functions. Interrupt cycle, Architecture of 8086/8088 Processor model,
31-10-22	Constructors and Destructors: Constructors: Declaration and Definition, Default Constructors, Parameterized Constructors, Copy Constructors. Destructors: Definition and use.
07-11-22	Function Overloading: Function Overloading: Declaration and definition. Inheritance – Extending Classes : Concept of inheritance, base class, derived class, defining derived classes, Instruction set ,Addressing modes, Registers used in Microprocessor, Features of Assembly language , Machine vs Assembly Language

14-11-22	visibility modes, private, public, protected; single inheritance : privately derived, publicly derived, protectedly derived ; making a protected member inheritable, access control to private and protected members by member functions of a derived class.
21-11-22	Pseudo Instruction Use of Assembly for program Addition, Subtraction, Multiplication using subroutines and basic Input /Output.
28-11-22	Multilevel inheritance, nesting of classes. Polymorphism : Definition, early binding, virtual functions, late binding Types of displays and peripherals devices, Installing software Introduction to Physical components of computer, Physical Inspection and Diagnostics on PC
5-12-22	Pure virtual functions. File handling: Opening and closing a file, Functional description of various Internal and External cards.
12-12-22	stream state member function, binary file operations, structures and file operators, Viruses: Types of computer viruses, Detection of Viruses ,Protection from Viruses
	FINAL PRACTICALS

## WEEKLY PLANNER FOR BSc II CS 4<sup>th</sup> Sem (2022)

SUBJECT: Computer Science.

WEEK	TOPICS
07-03-2022	Basic Concepts: A Historical perspective, File Systems vs. DBMS, Characteristics of the Data Base Approach Basic Concepts: Introduction to Complexity, Data Structure and Data Structure operations
14-03-2022	Abstraction and Data Integration, Database users, Advantages and Disadvantages of DBMS Applications of Data Structure, Basic data Structures; Arrays: Introduction
21-03-2022	Implication of Database approach; Data Independence Types of Array, Memory representation, Applications and operations.
28-03-2022	Stacks: Introduction, memory representation, Applications and operations The 12 Rules (Codd's Rule) for an RDBMS
04-04-2022	Relational Data Model: Relational model concepts, Integrity constraints over Linked List: Operations:-traversing, searching, inserting, deleting
11-04-2022	Relations Conventional Data Models : An overview of Network and Hierarchical Data Models Operations on header linked list, circular linked list Doubly linked list, memory representation
18-04-2022	Entity Relationship model. Applications, polynomial manipulation; Queue: Introduction, Types
25-04-2022	Relational Algebra and Calculus: Storage Organization for Relations Memory Representation and Applications
02-05-2022	Relational Algebra: Operations - union, intersection, difference, Cartesian product
09-05-2022	Projection, selection, division and relational algebra queries Trees– Definition and Basic concepts, Representation in Contiguous Storage
16-05-2022	Relational Calculus: Tuple oriented and domain oriented

	relational calculus and its operations Binary Tree, Binary Tree Traversal
23-05-2022	Advance concepts: Client-Server Architecture Binary Search tree; Graphs: Introduction, Memory Representation,
30-05-2022	3-tier Architecture of database, Distributed databases Graph Traversal (DFS and BFS)
	Normalization: First, second and third Normal Form Boyce Codd Normal Form Searching: Binary and Linear Search;
06-06-2022	Database Integrity: entity and referential Security, Concurrency Sorting: Bubble sort, Insertion sort Selection sort, Merge Sort, Quicksort, Recovery.



**WEEKLY PLANNER FOR BSc III CS Sem 5<sup>th</sup> 2022**

**Subject: Computer Science**

<b>Weeks</b>	<b>Topics</b>
15-08-22	<b>Interactive SQL</b> : SQL commands; Data Definition Language Commands; Data Manipulation Language Commands; Data types, Insertion of data into the tables; Viewing of data from the tables; Conditional viewing of data; Deletion operations; Updating the contents of the table; Modifying the structure of the table; Renaming table; Destroying tables.
22-08-22	<b>Data Constraints:</b> Types of Data Constraints; Column Level Constraints; Table Level Constraints; Null value concepts; The UNIQUE Constraint; The PRIMARY Constraint; The FOREIGN key Constraint; The CHECK Constraint; Viewing the User Constraint.
29-08-22	<b>Concepts of Project Management:</b> Concept of a project, Characteristic features of a project, Categories of project, Project life cycle phases, Project Management Concepts, Tools and Techniques for Project Management, Introduction of Computerised project management systems, Roles and Responsibilities of a Project Manager.
5-09-22	<b>Indexes:</b> Creation, Types, Dropping an index; Introduction to Views, Manipulating the Base table(s) through views, Rules of DML Statements on Join Views, Dropping a View, Inline Views, Materialized Views.
12-09-22	<b>Sequences:</b> Creation, Reference and Alteration; Database Security and Privileges: Grant Command, Revoke Command, Application Privileges Management, COMMIT and ROLLBACK.
19-09-22	<b>Establishing the Project:</b> Feasibility Report: Raw material survey, Demand study, Technical study, Location study; Financing Arrangements, Preparation of Cost Estimates, Finalisation of Project Implementation Schedule, Evaluation of the Project Profitability, Fixing the zero date.
26-09-22	<b>SQL Operators and Functions:</b> Arithmetic operators, Logical operators, Range searching, Pattern matching; Using DUAL, SYSDATE; SQL Functions: Group, Scalar, Aggregate, Numeric, String and Date Functions. <b>Organizing human resource:</b> Delegation, Project organization: Matrix, Tax force and Totally projectized organization
3-10-22	<b>Organizing the Project:</b> Working of Systems, Design of Systems, Project Work System

	Design, Work Breakdown Structure, Project Execution Plan, Project Procedure Manual, Project Control System, Planning, Scheduling and Monitoring.
10-10-22	<b>MID SEMESTER EXAMINATIONS</b>
17-10-22	<b>Grouping data from tables in SQL:</b> GroupBy, Having clause, Subqueries, Collating Information: Equi Joins, Cartesian Joins, Outer Joins, Self Joins; SET Operators: Union, Intersect, Minus; Nested Queries. <b>Project Directions, Coordination and Control:</b> Project Direction, Communications in a Project, Project Coordination, Project Control, Scope/Progress Control, Performance Control, Schedule Control, and Cost Control
24-10-22	<b>.Project Management Performance:</b> Performance Indicators, Performance Improvement, Project Management Environment. <b>PL/SQL-I:</b> Introduction to PL/SQL, The Advantage of PL/SQL, PL/SQL block structure, PL/SQL Architecture, Fundamentals of PL/SQL, PL/SQL Data types, Variables and constants, Scope and visibility of a variable, Assignments and expressions, Operator precedence
31-10-22	<b>Report Writing - I:</b> Characteristics of Reports, Importance of Reports, Types of Reports, Structure and layout of Reports: front matter, main body, back matter; Preparatory Steps to Writing Reports: Evaluation of material, Note making, Organising material, Principle of organisation, Making outline
07-11-22	<b>Report Writing- II:</b> Elements of Style; Use of Illustrations: types; Writing the Report: Rough draft, Process of writing, Order of writing, Final draft, Check list for reports; Specimen Reports: technical report
14-11-22	Conditional and iterative control, SQL within PL/SQL, writing PL/SQL code. <b>PL/SQL-II:</b> Cursor management in PL/SQL, Cursor manipulation, Implicit and Explicit cursor attributes, Exceptional Handling, Subprograms in PL/SQL
21-11-22	Procedure, Functions, and Triggers.
28-11-22	Final Practicals

## WEEKLY PLANNER FOR BSc III CS 6<sup>th</sup> Sem (2022)

Subject: Computer Science.

WEEK	TOPICS
07-03-2022	E-Commerce: Introduction, History, Motivation for E-Commerce, Types of Ecommerce, Advantages, Limitations, E-Commerce applications: Business-to-consumer, Business-to-Business, Consumer-to-Business, Consumer-to-Consumer, Business-within-Business.
14-03-2022	HTML: HTML Program Structure, Paragraph Breaks, Line Breaks; Emphasizing Text: Heading Styles, Drawing Lines; Text Styles: Bold, Italics, Underline; Other Text Effects: Centering of text and images etc; Lists: Unordered List, Ordered Lists, Definition lists; Adding Graphics to HTML Documents using the Border, Width, Height and Align;
21-03-2022	Internet and www: Introduction, History, Benefits of www, Internet Service Providers, Web and Electronic commerce, Web architecture and its components, Interactive web applications, Web and database integration, Web software development tools, Search engines.
28-03-2022	Tables: Caption Tag, Width, Border, Cell padding, Cell spacing, BGCOLOR, COLSPAN and ROWSPAN Attributes. Linking Documents: Anchor tag, External Document References, Internal Document References and Image Maps; Frames: Introduction to Frames: The <FRAMESET> tag, The <FRAME> tag, Targeting Named Frames
04-04-2022	Website designing and hosting: Life cycle of website building, Website content and traffic management, Working of ISPs, Choosing an ISP, Choosing and registering a domain name.
11-04-2022	DHTML: Introduction to Cascading Style Sheets (CSS), Style tag, Link tag, Types of CSS: In-Line, Internal, External; Forms: Attributes of Form element: Input element, Text Element, Password, Button, Submit Button, Reset Button, Checkbox, Radio, TextArea, Select and Option.
18-04-2022	Implementation and Maintenance of E-Commerce: Implementation strategies, Maintenance strategies, Legal and Ethical issues in E-commerce.

25-04-2022	JavaScript: Introduction and Features of JavaScript, Writing JavaScript into HTML, Tokens, Data Types, Variables, Operators, Control Constructs
02-05-2022	Payment Systems : From Barter to money, Requirements of Internet-based payments, Electronic payment media : Credit cards, Debit cards, Smart cards, e-wallets, Issues and implications of payment systems, Latest trends in payment systems
09-05-2022	Strings Arrays, Functions, Document Object Model, CoreLanguage Objects, Client Side Objects, Event Handling, Applications related to client side form validation
16-05-2022	Marketing on the Internet: Internet marketing techniques and cycles, Attracting and Tracking customers, Pros and cons of online marketing.
23-05-2022	Built-In Objects in JavaScript: String Object, Math Object, Date Object; Introduction to PHP : PHP Installation and Configuration; Naming files, Comments, Variables, Operators, Arrays, Flow Control Structures, More language basics
30-05-2022	Firewalls and Network Security: Types of firewall, Gateways, Proxy Servers and its advantages and disadvantages; Transaction Security: Types of transaction, Requirements for transaction,
06-06-2022	User-defined functions; Input validation, Working with Mathematical, String, Date and Time functions
13-06-2022	Encryption: asymmetric and symmetric encryption; Digital signatures, Digital certificates, Implementation and management issues.