

8 <sup>th</sup> STD FIRST SEMESTER	KARNATAKA SECONDARY EDUCATION EXAMINATION BOARD, BENGALURU.										
	TEACHING AND EXAMINATION SCHEME FOR JUNIOR TECHNICAL SCHOOL										
	PROGRAMME NAME: JUNIOR TECHNICAL SCHOOL						PROGRAMME CODE: JTS- COMPUTER SCIENCE				
	PATTERN: FULL TIME						DURATION OF PROGRAMME: 3 YEARS				
	Class: VIII - First Semester						Scheme: C-20				
Sl.no	Subject Name	Teaching Scheme				Examination Scheme					
		Contact Hours				Exam Paper Duration in Hrs	End Exam		I A Marks	Total Marks	Min Marks for passing (including IA marks)
		TH	TU	PR	Total		Max Marks	Min Marks			
1	Kannada	6	-	-	6	1 ½	40	12	10	50	18
2	English	5	-	-	5	1 ½	40	12	10	50	18
3	Hindi	5	-	-	5	1 ½	40	12	10	50	18
4	Mathematics	6	-	-	6	1 ½	40	12	10	50	18
5	Science	6	-	-	6	1 ½	40	12	10	50	18
6	Social Science	6	-	-	6	1 ½	40	12	10	50	18
7	Elements of Computers-I	4	-	-	4	1 ½	40	12	10	50	18
8	Elements of Computer Lab-I	-	-	3	3	3	20	6	5	25	9
	<b>Total</b>	<b>38</b>		<b>3</b>	<b>41</b>		<b>300</b>	<b>90</b>	<b>75</b>	<b>375</b>	<b>135</b>

**TH- Theory :: TU-Tutorial :: PR-Practical :: IA-Internal Assessment**

<b>8<sup>th</sup> STD SECOND SEMESTER</b>		KARNATAKA SECONDARY EDUCATION EXAMINATION BOARD, BENGALURU.									
		TEACHING AND EXAMINATION SCHEME FOR JUNIOR TECHNICAL SCHOOL									
		PROGRAMME NAME: JUNIOR TECHNICAL SCHOOL					PROGRAMME CODE: JTS- COMPUTER SCIENCE				
		PATTERN: FULL TIME					DURATION OF PROGRAMME: 3 YEARS				
		Class: VIII - Second Semester					Scheme: C-20				
Sl.no	Subject Name	Teaching Scheme Contact Hours				Examination Scheme					
		TH	TU	PR	Total	Exam Paper Duration in Hrs	End Exam		I A Marks	Total Marks	Min Marks for passing (including IA marks)
							Max Marks	Min Marks			
1	Kannada	6	-	-	6	1 ½	40	12	10	50	18
2	English	5	-	-	5	1 ½	40	12	10	50	18
3	Hindi	5	-	-	5	1 ½	40	12	10	50	18
4	Mathematics	6	-	-	6	1 ½	40	12	10	50	18
5	Science	6	-	-	6	1 ½	40	12	10	50	18
6	Social Science	6	-	-	6	1 ½	40	12	10	50	18
7	Elements of Computers-II	4	-	-	4	1 ½	40	12	10	50	18
8	Elements of Computer Lab-II	-	-	3	3	3	20	06	05	25	09
<b>Total</b>		<b>38</b>		<b>3</b>	<b>41</b>		<b>300</b>	<b>90</b>	<b>75</b>	<b>375</b>	<b>135</b>
<b>TH- Theory :: TU-Tutorial :: PR-Practical :: IA-Internal Assessment</b>											

9 <sup>th</sup> STD YEARLY SCHEME	KARNATAKA STATE BOARD OF TECHNICAL EXAMINATION, BENGALURU.										
	TEACHING AND EXAMINATION SCHEME FOR JUNIOR TECHNICAL SCHOOL.										
	PROGRAMME NAME: JUNIOR TECHNICAL SCHOOL						PROGRAMME CODE: JTS- COMPUTER SCIENCE				
	PATTERN: FULL TIME						DURATION OF PROGRAMME: 3 YEARS				
	Class: IX						C-2020				
Sl.no	Subject Name	Teaching Scheme Contact Hours				Examination Scheme					
		TH	TU	PR	Total	Exam Paper Duration in Hrs	End Exam		I A Marks	Total Marks	Min Marks for passing (including IA marks)
							Max Marks	Min Marks			
1	Kannada	6	-	-	6	3	100	35	25	125	45
2	English	5	-	-	5	2 ½	80	24	20	100	35
3	Hindi	5	-	-	5	2 ½	80	24	20	100	35
4	Mathematics	6	-	-	6	3	80	24	20	100	35
5	Science	6	-	-	6	3	80	24	20	100	35
6	Social Science	6	-	-	6	3	80	24	20	100	35
7	Basics of Computer	4	-	-	4	3	80	24	20	100	35
8	Basics of Computer Lab	-	-	3	3	3	40	12	10	50	18
	<b>Total</b>	38	-	3	41		<b>620</b>	<b>191</b>	<b>155</b>	<b>775</b>	<b>273</b>
<b>TH- Theory :: TU-Tutorial :: PR-Practical :: IA-Internal Assessment</b>											

10 <sup>th</sup> STD YEARLY SCHEME	KARNATAKA STATE BOARD OF TECHNICAL EXAMINATION, BENGALURU.										
	TEACHING AND EXAMINATION SCHEME FOR JUNIOR TECHNICAL SCHOOL.										
	PROGRAMME NAME: JUNIOR TECHNICAL SCHOOL						PROGRAMME CODE: JTS- COMPUTER SCIENCE				
	PATTERN: FULL TIME						DURATION OF PROGRAMME: 3 YEARS				
	Class: X						Scheme: C-20				
Sl. no	Subject Name	Teaching Scheme Contact Hours				Examination Scheme					
		TH	TU	PR	Total	Exam Paper Duration in Hrs	End Exam		I A Marks	Total Marks	Min Marks for passing (including IA marks)
							Max Marks	Min Marks			
1	Kannada	6	-	-	6	3	100	35	25	125	45
2	English	5	-	-	5	2 ½	80	24	20	100	35
3	Hindi	5	-	-	5	2 ½	80	24	20	100	35
4	Mathematics	6	-	-	6	3	80	24	20	100	35
5	Science	6	-	-	6	3	80	24	20	100	35
6	Social Science	6	-	-	6	3	80	24	20	100	35
7	Programming in ANSI 'C'	4	-	-	4	3	80	24	20	100	35
8	'C' Programming Lab	-	-	3	3	3	40	12	10	50	18
	<b>Total</b>	38		3	41		<b>620</b>	<b>191</b>	<b>155</b>	<b>775</b>	<b>273</b>
<b>TH- Theory :: TU-Tutorial :: PR-Practical :: IA-Internal Assessment</b>											

Junior Technical School Curriculum

Computer Science Revision Committee Members

1) Smt Suvarna Mahadev

Sr. Gr. Lecturer, Govt. Polytechnic, Bagepalli

2) Smt. Madhura

Sr. Gr. Lecturer , DTE, Bengaluru.

Course Code	:	20CSJTS1AT	Semester	:	VIII Std- I Semester
Course Title	:	Elements of Computers-I	Course Group	:	Core
No. of Credits	:	-	Type of Course	:	Lecture
Course Category	:	Computer Science	Total Contact Hours	:	4 periods per Week 64 periods per semester (1 period= 40 Minutes)
Prerequisites	:	No Prerequisites required	Teaching Scheme	:	(L:T:P)-4:0:0
CIE Marks	:	10	SEE Marks	:	40

### Course Objectives:

1. To know the fundamentals of computer and peripherals.
2. To know the evolution of computers.

### Course Contents

#### Unit-I : Computer Basics 12 periods

Basic model of Computer, Characteristics of Computer, Functional Units of Computer- Input Unit, Output Unit, Memory Unit, ALU, CPU

#### Unit-II : Generation of Computers 14 periods

First Generation(1940 – 56) : Vacuum Tubes , Second Generation(1956-63) : Transistors, Third Generation(1964 – early 1970s) : Integrated Circuit, Fourth Generation(Early 1970c -Till date): Microprocessors, Fifth Generation(Present and Beyond): Artificial Intelligence.

#### Unit-III : .Classification of Computers 10 periods

Classification according to purpose, type of data handled techniques, Classification according to functionality - Mini, Micro, mainframe, super computers, Applications of computers (Brief description of applications)

#### Unit-IV : Problem Solving in a computer 14 periods

Flow chart, Program, Working of Computers, Stored program concept, Hardware and Software.

#### Unit-V : Number System 14 periods

Computer and Numbers (Decimal, Binary number system), Binary coding – BCD, ASCII.

### Books:

1. Introduction to Computer Science, IITL Education Solutions Pvt. Ltd., Pearson Education.
2. Fundamentals of Computers, V Rajaraman, PHI, (For Unit I and IV)

### References:

1. Basics of computers, by Rajesh Hongal.

**Teachers should use the following strategies to achieve the various outcomes of the course.**

- Different methods of teaching and media to be used to attain classroom attention.
- Massive open online courses (MOOCs) may be used to teach various topics/sub topics.
- 15-20% of the topics which are relatively simpler of descriptive in nature should be given to the students for self-learning and assess the development of competency through classroom presentations.
- Micro-projects may be given to group of students for hand-on experiences
- Encouraging students to visit to Govt. offices/ Corporate offices/Business establishments/ Libraries etc around the institution.

**Course outcomes:**

At the end of the course student will be able to:

CO1. Understand the basic units of computer.

CO2. Understand how the computers have evolved.

CO3. Analysis of different types of computers.

CO4. Understand flow chart, differentiate between hardware and software.

CO5. To know how information is stored in computer.

**Detailed Course content**

Unit No & Name	Detailed Course Content	Contact period
1. Computer Basics	1.1 Basic model of Computer	3
	1.2 Characteristics of Computer	4
	1.3 Functional Units of Computer- Input Unit, Output Unit, Memory Unit, ALU, CPU	5
2. Generation of Computers	2.1 First Generation(1940 – 56) : Vacuum Tubes	3
	2.2 Second Generation(1956-63) : Transistors	3
	2.3 Third Generation(1964 – early 1970s) : Integrated Circuits	3
	2.4 Fourth Generation(Early 1970c -Till date): Microprocessors	3
	2.5 Fifth Generation(Present and Beyond): Artificial Intelligence	2
3. Classification of Computers	3.1 Classification according to purpose, type of data handled techniques.	3
	3.2 Classification according to functionality - Mini, Micro, mainframe, super computers	4
	3.3 Applications of computers (Brief description of applications)	3
4. Problem Solving in a computer	4.1 Flow chart	3
	4.2 Program	3
	4.3 Working of Computer	3
	4.4 Stored program Concept	2
	4.5 Hardware and Software	3
5.Number System	5.1 Computer and Numbers (Decimal, Binary number system)	7
	5.2 Binary coding – BCD, ASCII	7
Total		64

Model Question Bank

UNIT 1				
S.No	Questions			Marks
1.	Define computer.			4
2.	Explain the basic model of computer.			5
3.	Explain the characteristics of computer.			5
4.	With diagram explain parts of computer.			5
UNIT2				
1.	Describe first generation computers with basic characteristics features.			5
2.	Describe second generation computers with basic characteristics features.			5
3.	Describe third generation computers with basic characteristics features.			5
4.	Describe fourth generation computers with basic characteristics features.			5
5.	Describe fifth generation computers with basic characteristics features.			5
UNIT3				
1.	Explain classification of computers based on purpose.			5
2.	Explain classification of computers according to data handled techniques.			5
3.	Explain classification of computers according to functionality.			5
4.	Explain the applications of computers .			10
5.	Write a note on any one: Mini computers, mainframe computers, micro computers, super computers.			5 each
UNIT4				
1.	Define flowchart. List the different symbols used in a flowchart.			10
2.	What is stored program concept?			5
3.	Define program. Explain developing a program.			5
4.	Define hardware and software.			5
UNIT5				
1.	Write a note on decimal number system.			5
2.	Write a note on Binary number system.			5
3.	Explain how to convert binary to decimal number system.			5
4.	Explain how to convert decimal to binary number system.			5
5.	What is BCD? Explain.			10
6.	What is ASCII? Explain			10



Course Code	: 20CSJTS1AP	Semester	: VIII Std- I semester
Course Title	: Elements of Computers lab-I	Course Group	: Core
No. of Credits	: -	Type of Course	: Tutorial & Practice
Course Category	: Computer Science	Total Contact Hours	: 3 periods per Week 48 per Semester
Prerequisites	: -	Teaching Scheme	: (L:T:P)- 0 : 1:2
CIE Marks	: 05	SEE Marks	: 20

### Course Objectives:

### List of Practical's:

1. Identify and understand the models of Computers.
2. Identify the parts of Computer.
3. Identify and understand front panel switches and back panel connections of a Computer system.
4. Identify and understand the physical components of a Computer and network peripherals like modem, switches, connectors, cables etc.

### Course/Learning Outcome:

After undergoing this lab work, the student will be able to:

- CO1. Identifying the different models of computer.  
CO2. Understand and identify the different parts of computer  
CO3. Identify different connectors and indicators.  
CO4. Understand about network peripherals.

### Model Question Paper For CIE and SEE

Course & Programme:	Semester: I
Subject :	Max Marks : 10
Course Code :	Duration : 1 Hr
Name of the course coordinator:	Test : I
Note: Student has to conduct any one experiment in the CIE and SEE	
Questions	
<ol style="list-style-type: none"> <li>1. Identify the parts of a computer.</li> <li>2. Identify back panel and front panel connections.</li> <li>3. Identify and understand the models of Computers.</li> <li>4. Identify the parts of Computer.</li> <li>5. Identify and understand front panel switches and back panel connections of a Computer system.</li> <li>6. Identify and understand the physical components of a Computer and network peripherals like modem, switches, connectors, cables etc.</li> </ol>	

### Scheme of Evaluation for SEE

Sl.No	Particulars	Marks
1	Writing the procedure	15
2	Conduction and result	15
4	Viva Voce	10
Total		40

**(NOTE: CIE SHOULD BE CONDUCTED FOR 10 MARKS AND THEN REDUCED TO 05 MARKS)  
(NOTE: SEE SHOULD BE CONDUCTED FOR 40 MARKS AND THEN REDUCED TO 20 MARKS)**

### Equipment List

The following are the specification of the apparatus required for Elements of Computer Science Lab and number of apparatus required for the batch of 20 students.

Sl. No.	Specification	Required Number
1	Computer Systems with latest Configuration	20
2	Networking peripherals – Switch, Cable, Modem with Internet connection	01
3	10 KVA UPS with minimum 2 hours back up	01
4	Laser Printers, Scanner and Web camera	01
5	LED / LCD Projector	01

Course Code	:	20CSJTS1BT	Semester	:	VIII Std-II Semester
Course Title	:	Elements of Computers -II	Course Group	:	Core
No. of Credits	:	-	Type of Course	:	Lecture
Course Category	:	Computer Science	Total Contact Hours	:	4 periods per Week 64 periods per semester (1 period= 40 Minutes)
Prerequisites	:	No Prerequisites required	Teaching Scheme	:	(L:T:P)-4:0:0
CIE Marks	:	10	SEE Marks	:	40

### Course Contents

#### **Unit-I : Input Devices 12 periods**

Definition of Input devices (Keyboard, Mouse, Trackball, Joystick, Light pen), Description of Input Devices- Keyboard, Mouse. (Keyboard layout, Mouse actions)

#### **Unit-II : Output Devices 14 periods**

Introduction, Classification of Output Devices, Hard copy printer – Laser printer, Soft copy printer – Monitor. (Functionalities of both devices)

#### **Unit-III : Computer Memory 14 periods**

Introduction, Memory Representation, Memory Hierarchy (in brief), Primary Memory – Define RAM & ROM, Cache memory, Secondary memory – Define, Benefits, classification and give examples(Magnetic tape, magnetic disk, Hard disk-CD, Pen drive)

#### **Unit-IV: Computer Software 14 periods**

Introduction, Definition of software, Relation between software and hardware, Software categories: 1. System software – System management programs, System Development programs (Definitions), 2. Application software - Types of application software packages.

#### **Unit-V :Working in Windows Environment 10 periods**

Introduction to windows environment, working in Windows OS – creating a file, deleting a file, creating folder etc., Microsoft Word – Know the font group options, paragraph group options .

**Teachers should use the following strategies to achieve the various outcomes of the course.**

- Different methods of teaching and media to be used to attain classroom attention.
- Massive open online courses (MOOCs) may be used to teach various topics/sub topics.
- 15-20% of the topics which are relatively simpler of descriptive in nature should be given to the students for self-learning and assess the development of competency through classroom presentations.
- Micro-projects may be given to group of students for hand-on experiences
- Encouraging students to visit to Govt. offices/ Corporate offices/Business establishments/ Libraries etc around the institution.

#### **Course outcomes:**

At the end of the course student will be able to:

- C01. Familiarize with keyboard keys and to know actions of mouse.  
 C02. To know about functioning of printer.  
 C03. Understand features main memory and secondary memory.  
 C04. Differentiate between system software and application software.  
 C05. Familiarize some of the basic formatting options in MS-Word.

### Detailed Course content

Unit No & Name	Detailed Course Content	CO	PO	Contact Hrs
1. Input Devices	1.1 Definition of Input devices (Keyboard, Mouse, Trackball, Joystick, Light pen)			6
	1.2 Description of Input Devices- Keyboard, Mouse. (Keyboard layout, Mouse actions)			6
2. Output Devices	2.1 Introduction, Classification of Output Devices			2
	2.2 Hard copy printer – Laser printer			6
	2.3 Soft copy printer – Monitor. (Functionalities of both devices)			6
3. Computer Memory	3.1 Introduction, Memory Representation, Memory Hierarchy (in brief)			2
	3.2 Primary Memory – Define RAM & ROM, cache memory			6
	3.3 Secondary memory – Define and give examples(Magnetic tape, magnetic disk, Hard disk-CD, Pen drive)			6
4. Computer Software	4.1 Introduction, Definition of software, Relation between software and hardware			5
	4.2 Software categories: 1. System software – System management programs, System Development programs (Definitions)			5
	4.3 Application software - Types of application software packages.			4
5. Working in Windows Environment	Introduction to windows environment, working in Windows OS – creating a file, deleting a file, creating folder etc.			5
	Microsoft Word – Know the font group options, paragraph group options .			5
Total				64

### Model Question Bank

UNIT 1				
Sl.No	Questions			Marks
1.	List the different input devices.			5
2.	Discuss the keyboard device along with its layout.			10
3.	Explain different actions of mouse.			10
4.	What is an input device? Give examples.			5
UNIT2				
1.	What is an output device?			5
2.	Differentiate between hard copy and soft copy.			5
3.	Mention the types of output devices.			4
4.	In brief describe about Laser Printer.			5

5.	In brief explain about Monitor.			5
<b>UNIT3</b>				
1.	Define memory. Mention the types of memory.			5
2.	Differentiate between primary memory and secondary memory.			10
3.	Write a note on memory hierarchy.			8
4.	What is primary memory? Mention the types of primary memory.			6
5.	What is Secondary memory? Give examples.			6
6.	What is cache memory? Describe.			5
7.	List and describe in brief benefits of secondary storage.			5
8.	Describe classifications of secondary storage devices. (sequential and direct access)			8
9.	List different types of secondary storage.			4
<b>UNIT4</b>				
1.	Define system software and application software?			5
2.	Describe system management program.			5
3.	Describe system development programs.			5
4.	List the types of application software packages.			5
5.	List the uses of application software.			5
<b>UNIT5</b>				
1.	Mention the steps to create a file in Windows.			8
2.	List the options present in Font group in MS word.			5
3.	List the options present in Paragraph group in MS Word.			5
4.	Mention the steps to create a paragraph in a document with different font group options.			8

Course Code	:	20CSJTS1BP	Semester	:	VIII Std- II-Semester
Course Title	:	Elements of computer Lab-II	Course Group	:	Core
No. of Credits	:	-	Type of Course	:	Tutorial & Practice
Course Category	:	Computer Science	Total Contact Hours	:	3 periods per Week 48 periods per Semester
Prerequisites	:	-	Teaching Scheme	:	(L:T:P)- 0:1 :2
CCE Marks	:	05	SEE Marks	:	20

### Course Objectives:

#### List of Practical's:

1. Practice creating Icons and Folders, Creating & Opening of file, Editing and saving the document.
2. Practice Copy, Cut and Paste operations(files and folders), built-in utilities of OS like – Text Editors, Paint, Calculator.
3. Create a file and create its shortcut.
4. Create leave letter with proper margin and page setup in MS word.

5. Type a paragraph of text and apply Font group options like font color, text type, font size.
6. Type a paragraph of text and apply Font group options like bold, Italic, Underline, Subscript, superscript.
7. Type a paragraph of text and apply bulleted text, different alignments, line spacing.
8. Type a paragraph of text and practice cut, copy, paste, format painter.(Clipboard group)
9. Prepare a student marks details in a table using MS Word.

**Course/Learning Outcome:**

After undergoing this lab work, the student will be able to:

- C01. Understand the utilities and working environment of Windows.  
 C02. To Know about desktop and its icons.  
 C03. To know about basic formatting options in MS word.  
 C04. To know about editing options like cut, copy, paste in a document.

Model Question Paper  
For CIE and SEE

Course & Programme:	Semester: II
Subject :	Max Marks : 10
Course Code :	Duration : 1 Hr
Name of the course coordinator:	Test : I/II
Note: Student has to conduct any one experiment in the CIE and SEE	
Questions	

**Scheme of Evaluation for both CIE and SEE**

Sl.No	Particulars	Marks
1	Writing the procedure for any one experiment	15
2	Conduction of same experiment.	15
3	Result	5
4	Viva Voce	5
Total		40

**(NOTE: CIE SHOULD BE CONDUCTED FOR 10 MARKS AND THEN REDUCED TO 05 MARKS)  
 (NOTE: SEE SHOULD BE CONDUCTED FOR 40 MARKS AND THEN REDUCED TO 20 MARKS)**

### Equipment List

The following are the specification of the apparatus required and number of apparatus required for the batch of 20 students.

Sl. No.	Specification	Required Number
1	Computer Systems with latest Configuration	20
2	Networking peripherals – Switch, Cable, Modem with Internet connection	01
3	10 KVA UPS with minimum 2 hours back up	01
4	Laser Printers, Scanner and Web camera	01
5	LED / LCD Projector	01

Course Code	:	20CSJTS2T	Semester	:	IX Std
Course Title	:	Basics of Computers	Course Group	:	Core
No. of Credits	:	-	Type of Course	:	Lecture
Course Category	:	Computer Science	Total Contact Hours	:	4 periods per Week 128 periods per Year (1 period= 40 Minutes)
Prerequisites	:	8 <sup>th</sup> Standard computer fundamentals	Teaching Scheme	:	(L:T:P)-4:0:0
CIE Marks	:	20	SEE Marks	:	80

### Course Objectives:

1. Know difference between Windows OS and DOS.
2. Know about internet and its applications.

### Course Contents

#### Unit-I : DOS Commands

22 periods

External Commands – echo, type, Internal Commands – ls, cp, mv, rm, cat, Other commands – clear, who, date, cal, mkdir, rmdir, cd, Differentiate between Windows OS and Disk Operating System (DOS).

#### Unit-II : Internet Basics

20 periods

Introduction, Define Internet, Basic internet terms – Web page, Website, Home page, browser, Internet applications – Define WWW, E-mail, Video Conferencing.

#### Unit-III : Computer Architecture

32 periods

Introduction, Central Processing Unit, Interconnection of units, Bus types – data bus, control bus, Address bus, brief description of Control unit and ALU, Communication between various units of computer – Processor to memory, processor to I/O devices communication.

#### Unit-IV: Multimedia

25 periods

Definition, Features of multimedia, Brief description on building blocks of multimedia, Desirable features (Components) of multimedia systems, List of multimedia applications.

#### Unit-V : Excel and Power Point Presentation

29 periods

Definition and importance of Excel, Applications of Excel, Definition of power point presentation, purpose of creating ppts, Applications of PPTs.

### Books:

4. Introduction to Computer Science, ITL Education Solutions Pvt. Ltd., Pearson Education.
5. Fundamentals of Computers, V Rajaraman, PHI, (For Unit I and IV)

### References:

2. Basics of computers, by Rajesh Hongal.



**Teachers should use the following strategies to achieve the various outcomes of the course.**

- Different methods of teaching and media to be used to attain classroom attention.
- Massive open online courses (MOOCs) may be used to teach various topics/sub topics.
- 15-20% of the topics which are relatively simpler of descriptive in nature should be given to the students for self-learning and assess the development of competency through classroom presentations.
- Micro-projects may be given to group of students for hand-on experiences
- Encouraging students to visit to Govt. offices/ Corporate offices/Business establishments/ Libraries etc around the institution.

**Course outcomes:**

At the end of the course student will be able to:

- C01. To Know about DOS Environment and some basic internal and external commands.  
 C02. Understand about internet, WWW, E-mail.  
 C03. To know about architecture and communication between functional units of computers.  
 C04. To know about features of multimedia.  
 C05. To know about creating spreadsheets in excel and slides creation in power point.

**Detailed Course content**

Unit No & Name	Detailed Course Content			Contact Hrs
1. DOS Commands	External Commands – echo, type			7
	Commands – ls, cp, mv, rm, cat			7
	Other commands – clear, who, date, cal, mkdir, rmdir, cd,			8
	Differentiate between Windows OS and Disk Operating System (DOS).			1
2. Internet Basics	Introduction, Define Internet			6
	Basic internet terms – Web page, Website, Home page, browser			6
	Internet applications – Define WWW, E-mail, Video Conferencing.			8
3.Computer Architecture	Introduction, Central Processing Unit, Interconnection of units			8
	Bus types – data bus, control bus, Address bus, brief description of Control unit and ALU			12
	Communication between various units of computer – Processor to memory, processor to I/O devices communication.			12
4.Multimedia	Definition, Features of multimedia, Brief description on building blocks of multimedia			12
	Desirable features (Components) of multimedia systems, List of multimedia applications.			13
5. Excel and Power Point Presentation	Definition and importance of Excel, Applications of Excel, Definition of power point presentation			15
	Purpose of creating PPT's, Applications of PPT's.			14
<b>Total</b>				<b>128</b>

Model Question Bank

UNIT 1				
S.No	Questions			Marks
1.	What are internal commands? Give examples.			5
2.	What are external commands? Give examples.			5
3.	With syntax explain date, cal commands.			5
4.	With syntax explain copy, remove, move commands			5
5.	With syntax explain create directory, remove directory and change directory commands.			5
6.	Mention the purpose of who,ls,cat, clear commands.			5
UNIT2				
1.	Define the terms: Internet, www, web page, browser, website.			2 each
2.	Define E-mail.			5
3.	List different applications of Internet.			5
UNIT3				
1.	Define CPU and mention the functions of a processor.			5
2.	Mention the different buses and their purposes.			5
3.	Describe briefly control unit.			5
4.	Describe briefly arithmetic logic unit.			5
5.	Briefly explain communication between processor and memory.			5
6.	Briefly explain communication between I/O Devices and processor.			5
UNIT4				
1.	Define Multimedia. Mention the characteristic features of it.			5
2.	Briefly explain the building blocks of multimedia.			10
3.	Explain briefly desirable features of multimedia system.			10
4.	List the applications of multimedia.			5
UNIT5				
1.	Define spreadsheet.			4
2.	Give applications of MS - excel			5
3.	Define power point presentation with its purpose.			5
4.	Give applications of power point presentation.			5

Course Code	: 20CSJTS2P	Semester	: IX Std
Course Title	: Basics of Computer lab	Course Group	: Core
No. of Credits	: -	Type of Course	: Tutorial & Practice
Course Category	: Computer Science	Total Contact Hours	: 3 Periods Per Week 96 Periods Per year
Prerequisites	: 8 <sup>th</sup> Std Computer fundamentals	Teaching Scheme	: (L:T:P)- 0:1 :2
CCE Marks	: 10	SEE Marks	: 40

### Course Objectives:

### List of Practical's:

1. Internal commands: echo,type etc.  
External commands: ls, cp, mv, rm, cat.
2. Other commands – clear, who, cal, date, mkdir, rmdir,cd.
3. Create a worksheet containing marks of minimum 5 students in 5 subjects and calculate the total marks in each subject and find average.
4. Create a worksheet containing marks of any number of students in 5 subjects and find total number of students entered in a worksheet.
5. To the above program.3 create bar, line, pie, column chart.
6. Create a presentation of minimum 3-5 slides of your interested topic.
7. Create one slide a insert a picture from a file.
8. Create a slide and apply different animations effects.
9. Create a slide with some theme and change font color,type,effects.

### Course/Learning Outcome:

After undergoing this lab work, the student will be able to:

- C01. To Know about DOS Environment and some basic internal and external commands.  
C02. To know about usage of spreadsheet.  
C03. To know about power point presentation.

### Scheme of Evaluation for both CIE and SEE

Sl.No	Particulars	Marks
1	Writing of the program	15
2	Conduction	15
3	Result	5
4	Viva Voce	5
Total		40

### Equipment List

The following are the specification of the apparatus required and number of apparatus required for the batch of 20 students.

Sl. No.	Specification	Required Number
1	Computer Systems with latest Configuration	20
2	Networking peripherals – Switch, Cable, Modem with Internet connection	01
3	10 KVA UPS with minimum 2 hours back up	01
4	Laser Printers, Scanner and Web camera	01
5	LED / LCD Projector	01

Course Code	:	20CSJTS3T	Semester	:	X Std
Course Title	:	Programming in ANSI 'C'	Course Group	:	Core
No. of Credits	:	-	Type of Course	:	Lecture
Course Category	:	Computer Science	Total Contact Hours	:	4 periods per Week 128 periods per year (1 period= 40 Minutes)
Prerequisites	:	Knowledge of basic mathematics and IT skills.	Teaching Scheme	:	(L:T:P)-4:0:0
CCE Marks	:	20	SEE Marks	:	80

### Course Objectives:

Understand the syntax of data types, analyze formatting styles for input/output statements  
Understand basic operators and strings, Understand Decision statements, control structures, looping statements and know to write simple C programs.

### Course Contents

#### Unit-I : Overview of C 14 periods

History of C, Importance of C, Basic Structure of C Program, Sample program - Printing a message, Creating a file and executing of C Program under DOS Environment.

#### Unit-II : Constants and Variables 30 periods

Introduction , Character Set, C tokens, Keyword and Identifiers, Constants, Variables, Data types, Declaration of variables, Assigning values to variables, Defining Symbolic Constant, Declaring a variable as constant, Declaring a variable

#### Unit-III : Operators 10 periods 22 periods

Introduction, Arithmetic Operator, Relational Operator, Logical Operators, Assignment operators, Conditional operator, bitwise operator.

#### Unit-IV: Input and Output Statements 14 periods 32 periods

Input and output statements – scanf(), printf(), putchar(), getchar(), getc(), putc(), gets(), puts(), Formatted Input Statements - Inputting Integer Numbers, inputting character and strings, inputting floating point numbers(Real) numbers, reading mixed data types, Formatted output statements - Outputting integers, real, single character and strings.

#### Unit-V : Decision making and Control Structure 30 periods

Introduction, Decision making with if Statement – 1. Simple if statement 2. If...else statement with simple examples, Looping statements – for, while, Do-while with simple examples

### Books:

1. Programming in ANSI C by E. Balaguruswamy, Sixth Edition, Tata Mcgraw Hill.

### References:

- (a) Programming with ANSI & Turbo C, Ashok Kamthane, Second Edition, Pearson Education.
- (b) Programming in C and Data Structure, P.B.Kotur, Spana Book house.
- (c) <http://www.tutorialspoint.com/cprogramming/>

**Teachers should use the following strategies to achieve the various outcomes of the course.**

- Different methods of teaching and media to be used to attain classroom attention.
- Massive open online courses (MOOCs) may be used to teach various topics/sub topics.
- 15-20% of the topics which are relatively simpler of descriptive in nature should be given to the students for self-learning and assess the development of competency through classroom presentations.
- Micro-projects may be given to group of students for hand-on experiences
- Encouraging students to visit to Govt. offices/ Corporate offices/Business establishments/ Libraries etc around the institution.

**Course outcomes:**

At the end of the course student will be able to:

C01. Study the structure of a C program.

C02. Illustrate syntax rules for numerical constants and variables, data types,

C03. Know the various arithmetic operators and analyze with simple examples .

C04. Know to format different types of input/output statements.

C05. Know how to use decision making statements and looping structures.

**Detailed Course content**

Unit No & Name	Detailed Course Content	Contact periods
1.	History of C, Importance of C, Basic Structure of C Program	4
	Sample program - Printing a message	4
	Creating a file and executing of C Program under DOS Environment	6
2.	Introduction , Character Set, C tokens, Keyword and Identifiers	8
	Constants, Variables, Data types, Declaration of variables	8
	Assigning values to variables, Defining Symbolic Constant	8
	Declaring a variable as constant, Declaring a variable	6
3.	Introduction, Arithmetic Operator, Relational Operator, Logical Operators	10
	Assignment operators, Conditional operator, bitwise operator.	12
4.	Input and output statements - Scanf(), printf(), putchar(), getchar(), getc(), putc(), gets(), puts(),	10
	Formatted Input Statements - Inputting Integer Numbers, inputting character and strings, inputting floating point numbers(Real) numbers, reading mixed data types	12
	Formatted output statements - Outputting integers, real, single character and strings.	10
5.	Introduction, Decision making with if Statement - 1. Simple if statement 2. If...else statement with simple examples	15
	Looping statements - for, while, Do-while with simple examples	15
Total		128

Model Question Bank

S.No	Questions			Marks
Unit I				
1.	Write the structure of a C program.			5
2.	Explain with sample program structure of a C program.			10
3.	How to compile and execute a C Program file.			5
4.	Mention the characteristic features of C Program.			5
5.	Write a program to print "Hello" message.			5
UNIT2				
1.	What is variable? Write the rules and guidelines for naming variable?			5
2.	Explain integer data type with an example.			5
3.	Define Keyword, Identifier, Constant, variable.			4
4.	Explain floating data type with example.			5
5.	How to declare a constant. Explain.			5
6.	What is a character data type. How to declare it.			10
7.	How to declare a variable. Explain.			5
8.	How to assign values to variables using assignment statement.			5
UNIT3				
1.	Explain arithmetic operators. Give example.			10
2.	Explain Relational operators with example.			5
3.	Explain assignment operator with example.			5
4.	Explain Logical operators with example.			5
UNIT4				
1.	Explain printf() statement with an example.			5
2.	Explain scanf() statement with an example.			5
3.	What is formatted input statement. Explain with Syntax.			10
4.	What is formatted output statement. Explain with example.			10
5.	How to read integer/floating data type and how to print it.			10
6.	How to read character/String data type and how to print it.			10
7.	With syntax explain reading mixed data type.			5
8.	With syntax how to write mixed data type.			5
9.	Write a program to read two integer numbers and find the Sum/Difference of those two numbers.			5
10.	Write a program to read your name the print the same string.			5
11.	Explain getchar() with example.			5
12.	Difference between gets() and getc().			5
UNIT5				
1.	Give the syntax for if statement and give an example.			5

2.	Compare while and do....while statement			8
3.	Give the syntax for if.....else statement and explain with an example.			10
4.	With syntax explain 'for' loop statement.			5
5.	Write a program to test whether a given number is even or odd.			5
6.	Write a program to check whether a given number is divisible by 5.			5

## Practical

Course Code	:	20CSJTS3P	Semester	:	X Std
Course Title	:	'C' Programming Lab	Course Group	:	Core
No. of Credits	:	-	Type of Course	:	Tutorial & Practice
Course Category	:	Computer Science	Total Contact Hours	:	3 periods per Week 96 periods per year
Prerequisites	:	Knowledge of Computer Operation.	Teaching Scheme	:	(L:T:P)- 0:1:2
CIE Marks	:	10	SEE Marks	:	40

### Course Objectives:

1. Apply the specification of syntax rules for numerical constants and variables, data types.
2. Usage of Arithmetic operator, logical operator and relational operators and other C constructs.
3. Write C programs using decision making, branching and loop constructs.

### List of Practical's:

1. Program to find sum of two numbers.
2. Program to find product of two floating point / Real numbers.
3. Program to find the given number is odd or even.(Using if statement).
4. Program to check whether a given number is divisible by 2.
5. Program to convert temperature in Celsius to Fahrenheit.
6. Program to read a string of characters and display the same.
7. Program to find sum of numbers from 1 to 10 using do-while statement.
8. Program to find largest of three numbers. (if-else)
9. Program to find area of a rectangle.
10. Program to find area of a Circle.

### Course/Learning Outcome:

After undergoing this lab work, the student will be able to:

- C01. Understand the use of different data types.
- C02. Know formatted input and output statements.
- C03. Demonstrate branching statements.
- C04. Demonstrate looping statements.



**References:**

1. Programming in ANSI C by E. Balaguruswamy, Sixth Edition, Tata Mcgraw Hill.
2. <http://www.tutorialspoint.com/cprogramming/>

**Scheme of Evaluation for both CIE and SEE**

Sl.No	Particulars	Marks
1	Writing one program	10
2	Executing one program	15
3	Result	5
4	Viva Voce	10
Total		40

**Equipment List**

The following are the specification of the apparatus required and number of apparatus required for the batch of 20 students.

Sl. No.	Specification	Required Number
1	Computer Systems with latest Configuration	20
2	Networking peripherals – Switch, Cable, Modem with Internet connection	01
3	10 KVA UPS with minimum 2 hours back up	01
4	Laser Printers, Scanner and Web camera	01
5	LED / LCD Projector	01