

# GOVERNMENT BILASA GIRLS' P.G. COLLEGE, BILASPUR (C.G.)

Affiliated to Atal Bihari Vajpayee Vishwavidyalaya, Bilaspur (C.G)

Grade - 'B+' Accredited by NAAC



SESSION 2022-2023

NATIONAL EDUCATION POLICY - 2020

CURRICULUM FRAMEWORK FOR SEMESTER I & II  
UNDER GRADUATE PROGRAM IN COMPUTER SCIENCE

B.Sc. (C.Sc.)

**SUBJSUBJECT: UNDERGRADUATE COURSE CURRICULUM 2022-23**

<b>PART-A: Introduction</b>			
Program: <i>Certificate Course</i>		Class: B.Sc. Semester-I	Year: 2022
		Session: 2022-2023	
1	Course Code		
2	Course Title	<b>Computer Fundamental and PC Packages</b>	
3	Course Type	<b>Discipline Specific Core Course (DSCC)</b>	
4	Pre-requisite(if, any)	As per Government norms / Institutional scheme	
5	Course Learning Outcomes(CLO)	<i>After completion of this course, the students will be able to:</i> <ul style="list-style-type: none"> <li>➤ Understand characteristics and basic structure computer system.</li> <li>➤ Have basic knowledge of processor building blocks.</li> <li>➤ Get familiar with memory and I/O devices.</li> <li>➤ Learn Office suite.</li> </ul>	
6	Credit Value	04(03 Theory & 01 Practical)	
7	Total Marks	Max.Marks:	Min Passing Marks:

**PART-B: Content of the Course**

Total No. of Teaching-learning - Hours - 45		
Unit	Topics(Course contents)	No.ofHours
I	<b>Basics of Computer:</b> Characteristics of computers, Basic Organization of a computer system, Computer Generations, Classification of computers, Applications of computer. <b>Processor Building Blocks:</b> Control Unit, Arithmetic Logic Unit, Registers, Instruction sets, Processor speed, Types of processors (CISC, RISC, EPIC), Examples of various processors and their families, working of processor and execution process, Machine cycle.	12
II	<b>Memory and I/O Devices:</b> Types of Memory, RAM, Cache, ROM, Flash Memory, CDs, DVDs, Memory Hierarchy. Input Devices: Keyboard, Mouse, Trackball, Touchpad, Pointing Stick and others. Output Devices: Monitors, Printers, Plotters, Speakers, Headphones, and Earbuds, Data Projectors, Interactive Whiteboards.	11
III	<b>Ms Windows &amp; Ms Word:</b> Features of windows, Basic elements of windows desktop, Personalizing Desktop, Screen saver & Themes, Task Bar, working with files & folders. Accessories, Control Panel. <b>Ms Word:</b> Menus, shortcuts, Working with Documents, Text & Paragraph Formatting, Margins, Border & shading, Bullets & Numbering, working with Header & Footers, Find & Replace, Auto Correct, working with columns, Inserting Equation & symbols, Mail Merge.	11
IV	<b>Ms Excel &amp; Ms PowerPoint:</b> Spreadsheet and its applications, Menus and toolbars & icons, shortcuts, computing data (Formula), Referencing Cells, Inserting, Moving & Copying Cells, Sorting, formatting spreadsheets, Splitting and merging cells, Different types of charts. <b>Ms Power Point:</b> Creating new presentation, Slides & different views, setting backgrounds, function of tool bar and menu bar, inserting pictures, movies, tables etc. into the presentation, setting animation and transition effect, adding audio and video, printing handouts.	11
keywords	<i>MS Windows, MS Word, MS Excel, MS PowerPoint</i>	

## PART-C(CSSCC -1T)

### Learning Resources: Text Books, Reference Books and Others

#### Text Books:

1. Computer science: An overview, Brookshear, J.G., Pearson Education.
2. Fundamentals of Computers, Raja Raman V. , Prentice Hall Of India, New Delhi.
3. Comdex Computer Course Kit(Windows 7 with office 2010), Gupta Vikas, Dreamtech Publication,
4. Mastering MS Office 2000, Professional Edition by Courter, BPB publication.
5. MS Office 2000 Training Guide by Maria, BPB Publications.
6. MS Office complete by SYBEX

#### Reference Books:

1. PC Upgrade and repair Black book by Ron Gilster.
2. Fundamentals of computers and information technology, A.Jaiswal, Dreamtech Press.

#### Online Resources / e-learning resources:

- [https://diksha.gov.in/cbse/play/collection/do\\_313109215407038464184?contentType=TextBook](https://diksha.gov.in/cbse/play/collection/do_313109215407038464184?contentType=TextBook)
- <https://ndl.iitkgp.ac.in/>
- [https://onlinecourses.swayam2.ac.in/cec19\\_cs06/preview](https://onlinecourses.swayam2.ac.in/cec19_cs06/preview)
- <https://nptel.ac.in/courses>
- <https://cec.nic.in/cec/moocsug>
- [https://www.youtube.com/results?search\\_query=spoken+tutorial+computer+fundamental](https://www.youtube.com/results?search_query=spoken+tutorial+computer+fundamental)
- [https://eskillindia.org/Course/course\\_detail/upgrade-microsoft-office-it-scale-eng](https://eskillindia.org/Course/course_detail/upgrade-microsoft-office-it-scale-eng)
- <https://spoken-tutorial.org/>
- <http://epathshala.nic.in>

## PART-D: Assessment and Evaluation

### Suggested Continuous Evaluation Methods:

Maximum Marks:

Marks

Continuous Comprehensive Evaluation (CCE):

Marks

Semester End Exam (SEE):

Marks

Internal Assessment: Continuous Comprehensive Evaluation (CCE)

Semester End Exam (SEE):

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**SUBJECT: UNDERGRADUATE COURSE CURRICULUM  
2022-23**

<b>PART-A: Introduction</b>			
<b>Program: Certificate Course</b>		<b>Class: B.Sc. Semester-I</b>	<b>Year: 2022</b>
		<b>Session: 2022-2023</b>	
1	Course Code		
2	Course Title	<b>Laboratory Course (Computer Fundamental and PC Packages)</b>	
3	Course Type	<b>Discipline Specific Core Course (DSCC) Practical</b>	
4	Pre-requisite (if, any)	As per Government norms / Institutional scheme	
5	Course Learning Outcomes (CLO)	<i>After completion of this course, the students will be able to:</i> <ul style="list-style-type: none"> <li>➤ Get familiar with GUI.</li> <li>➤ Have an insight into Office suit.</li> <li>➤ Learn creating and formatting documents in word processor software.</li> <li>➤ Work on spreadsheet software</li> <li>➤ Create and use formulas and chart in worksheet.</li> <li>➤ Create effective and impressive presentation.</li> </ul>	
6	Credit Value	01	
7	Total Marks	Max. Marks:	Min Passing Marks:
<b>PART-B: Content of the Course</b>			
Total No. of Teaching-learning - Hours - 30			
Topics (Course contents)			
A tentative list lab work that can be amended by teacher / department concerned.			
<b>Windows :</b>			
<ol style="list-style-type: none"> <li>1. Write steps to create new folder in Desktop.</li> <li>2. Write steps to Install Software and pin in Taskbar.</li> <li>3. Write steps to copy all files in a folder and paste to another folder.</li> <li>4. Write steps to print Document.</li> <li>5. Write steps to create shortcut of any folder or application.</li> </ol>			
<b>MS Word :</b>			
<ol style="list-style-type: none"> <li>1. Write steps to give self-Introduction.               <ol style="list-style-type: none"> <li>a) Divide the text in four paragraphs , use justify alignment.</li> <li>b) Change font size to 16 points for the last paragraph.</li> <li>c) Apply bullets or number to last four line of 3<sup>rd</sup> paragraph.</li> <li>d) Give 1.5 line spacing in 2<sup>nd</sup> paragraph.</li> </ol> </li> <li>2. Write steps to create table to fill students detail.               <ol style="list-style-type: none"> <li>a) Insert watermark "Computer LAB".</li> <li>b) Insert one extra row and column in middle of table.</li> <li>c) Apply font style "Time new Roman" and 14 size to table.</li> </ol> </li> <li>3. Write steps to create chart and show the product price comparison between 2018,2019,2020 and 2021.</li> <li>4. Write steps to create Resume using Shapes, text and colors.</li> <li>5. Write steps to Insert images.</li> <li>6. Write steps to split a single column text to triple column text.</li> <li>7. Write Steps to Insert Formula and equation in page.</li> <li>8. Write steps for mail merge.</li> </ol>			
<b>MS Excel :</b>			
<ol style="list-style-type: none"> <li>1. Write steps to open a new workbook and save the file with the name "payroll".</li> <li>2. Write steps to use autofill to put the Employee serial number into cells.</li> <li>3. Write steps to add Department name of Employee table with merging cells.</li> <li>4. Write steps to calculate total salary with formula.</li> </ol>			

5. Write steps to use wrap text, orientation, and merge cells as desired.
6. Write steps to Open a new sheet and save the file with the student's name and Insert student details with minimum 4 subjects marks.
7. Write steps to calculate percent and Grade with suitable formulas.
8. Write steps to create chart of pass, fail and absent students in student sheet.
9. Write steps to sort the percent wise students' sheet and create another table of fail student.
10. Write steps to print highest marks students' details in another table.

**MS PowerPoint:**

1. Write steps to create 3 slides and add different background images in slides.
2. Write steps to start a new blank presentation and first slides is going to be a Title slides of any topic.
3. Write steps to Insert the second slides this should be with a layout of bulleted list.
4. Write steps to Insert the third slides this should be tabular data chart with minimum 5 rows and columns.
5. Write steps to take a new slide and new title and apply minimum 5 format tools in title.
6. Write steps to take a new slide and insert a shape and in these shapes, you insert images and apply transition and animation on the above slides.
7. Write steps to save the presentation with your name in desktop.
8. Write steps to add animation and transition to your slide.

**keywords** MS Windows, MS Word, MS Excel, MSPowerPoint

**PART-C(CSSCC -1P )**

**LearningResources:TextBooks,ReferenceBooksandOthers**

**Text Books:**

1. Microsoft office 2007 Fundamental.
2. Ms office: - S S Shrivastava, Firewall Media.
3. Office 2000 made easy: - Alan Neibauer, Tata Mcgraw Hill.

**Online Resources:**

- [https://diksha.gov.in/cbse/play/collection/do\\_313109215407038464184?contentType=TextBook](https://diksha.gov.in/cbse/play/collection/do_313109215407038464184?contentType=TextBook)
- <https://ndl.iitkgp.ac.in/>
- [https://onlinecourses.swayam2.ac.in/cec19\\_cs06/preview](https://onlinecourses.swayam2.ac.in/cec19_cs06/preview)
- <https://nptel.ac.in/courses>
- <https://cec.nic.in/cec/moocsug>
- [https://www.youtube.com/results?search\\_query=spoken+tutorial+computer+fundamental](https://www.youtube.com/results?search_query=spoken+tutorial+computer+fundamental)
- [https://eskillindia.org/Course/course\\_detail/upgrade-microsoft-office-it-scale-eng](https://eskillindia.org/Course/course_detail/upgrade-microsoft-office-it-scale-eng)
- <https://spoken-tutorial.org/>

**PART-D:AssessmentandEvaluation**

- *Examination of lab. course – CSSCC – 1P shall be conducted combined with CSSCC – 2P at the end of Sem.-II*
- *Exam pattern shall be followed to Departmental laboratory norms and questions will be determined by the department / teacher concerned*
- *Marks distribution in each course shall be determined by the department / course tutor following the guidelines of NEP-2020.*

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# SUBJECT: UNDERGRADUATE COURSE CURRICULUM

2022-23

<b>PART-A: Introduction</b>			
<b>Program: Certificate Course</b>		Class: B.Sc. Semester-II	Year: 2022
Session: 2022-2023			
1	CourseCode		
2	CourseTitle	<b>Programming Methodology With 'C'</b>	
3	CourseType	<b>Discipline Specific Core Course (DSCC)</b>	
4	Pre-requisite(if, any)	As per Government norms / Institutional scheme	
5	Course Learning Outcomes(CLO)	<p><i>After completion of this course, the students will be able to:</i></p> <ul style="list-style-type: none"> <li>➤ Develop programming concept.</li> <li>➤ Will help to understand basics of data structure and program flow.</li> <li>➤ Learn about the strategies of writing efficient and well-structured programs.</li> <li>➤ Learn Array processing coupled with iterative methods.</li> <li>➤ Learn use of pointers.</li> <li>➤ Understand recursive techniques.</li> </ul>	
6	Credit Value	04 (03 Theory & 01 Practical)	
7	TotalMarks	Max.Marks:	MinPassing Marks:
<b>PART-B: Content of the Course</b>			
<b>Total No. of Teaching-learning - Hours- 45</b>			
Unit	Topics(Course contents)	No.of Hours	
I	<p><b>Introduction to program concept:</b>                      Characteristics of programming, Features of algorithm, Flow Charts-Symbols, Rules for making Flow chart, Programming Techniques-top down, bottom up, structured programming and modular programming merits, Demerits and their comparative study.</p> <p><b>Introduction to 'C' program</b>                      Structure of 'C' program, character set, 'C' tokens, keywords, identifiers, constants, variables, data types, type of operators and expressions, precedence of arithmetic operator, Input, and output functions in 'C'.</p>	12	
II	<p><b>Control structures:</b>                      If, If Else, Nesting of If Else, Else If Ladder statement, switch statement, conditional operator, GOTO statement. Loop introduction, While, Do While, For Loop, Jumps in Loop.</p> <p><b>Arrays, Strings &amp; Function</b>                      Definition, Initialization, characteristics, One, Two, Multidimensional arrays, string-Introduction, Working with strings &amp; standard functions. Function-Introduction, need for user defined function, Form of C function, return value and their type, Declaration, Prototype, category of function, call by value and reference.</p>	11	
III	<p><b>Structure, Union &amp; Pointers</b>                      Declaration, Initialization, Array of structure, structure within structure, structure and functions, union, Size of structure, Pointers-Introduction, Declaring and initializing pointer, Accessing a variable, pointer expression.</p>	11	
IV	<p><b>File management:</b>                      Introduction, Defining and opening a file, closing a file, Streams and file types, file operations, File I/O, Read, Write and other standard function of file, random access to file, Dynamic memory allocation.</p>	11	
<i>keywords</i>	<i>Control structures, Loops, Arrays, Strings, Structure,</i>		

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## PART-C(CSSCC -2T)

### Learning Resources: Text Books, Reference Books and Others

#### Text Books:

- Let Us 'C', Yashwant Kanetkar, BPB Publications.
- The Complete reference C, Herbert Schildt, Tata McGraw Hill
- Programming in ANSI C, E. Balaguruswamy, Tata McGraw Hill.
- Programming with C, Byron Govtfred, Tata McGraw Hill.

#### Reference Books:

- The "C" Programming Language, Brian W. Kenigham and Dennis Ritchie, Pearson.
- The spirit of "C", Henry Mulish, Herbert L. Cooper.
- Mastering "C", Crain Bolon.
- Programming with "C", Gotfried, Schaums Outline Series, TMH Publications.
- Program Design, Peter Juliff, PHI Publications.

#### Online Resources / e-learning resources:

- [https://diksha.gov.in/cbse/play/collection/do\\_313109215407038464184?contentType=TextBook](https://diksha.gov.in/cbse/play/collection/do_313109215407038464184?contentType=TextBook)
- <https://ndl.iitkgp.ac.in/>
- <https://swayam.gov.in/explorer?category=SCHOOL>
- <https://ndl.iitkgp.ac.in/>
- <https://nptel.ac.in/courses>
- <https://spoken-tutorial.org/>
- <https://cec.nic.in/cec/moocsug>
- [First C Program - English - YouTube](#)
- <http://epathshala.nic.in>

## PART-D: Assessment and Evaluation

### Suggested Continuous Evaluation Methods:

Maximum Marks:	Marks
Continuous Comprehensive Evaluation (CCE):	Marks Semes
ter End Exam (SEE):	Marks

Internal Assessment: Continuous Comprehensive Evaluation (CCE)		
Semester End Exam (SEE):		

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**SUBJECT: UNDERGRADUATE COURSE CURRICULUM  
2022-23**

**PART-A: Introduction**

<b>Program: Certificate Course</b>		<b>Class: B.Sc. Semester-II</b>	<b>Year: 2022</b>	<b>Session: 2022-2023</b>
1	Course Code			
2	Course Title	<b>Laboratory Course (Programming Methodology With 'C')</b>		
3	Course Type	<b>Discipline Specific Core Course (DSCC) Practical</b>		
4	Pre-requisite (if any)	As per Government norms / Institutional scheme		
5	Course Learning Outcomes (CLO)	<i>After completion of this course, the students will be able to:</i> <ul style="list-style-type: none"> <li>➤ Learn appropriate use of operators, selection and control structures.</li> <li>➤ Learn how to use arrays.</li> <li>➤ Have an insight of structures and union.</li> <li>➤ Learn to write recursive programs.</li> <li>➤ Learn how to use functions and how to pass parameters.</li> <li>➤ Understand file handling.</li> </ul>		
6	Credit Value	01		
7	Total Marks	Max. Marks:	Min Passing Marks:	

**PART-B: Content of the Course**

**Total No. of Teaching-learning - Hours - 30**

**Topics (Course contents)**

**A tentative list lab work that can be amended by teacher / department concerned.**

1. Write a Program to find area and circumference of circle.
2. Write a Program to find the simple interest.
3. Write a Program to find largest among two numbers.
4. Write a Program to convert temperature from degree centigrade to Fahrenheit.
5. Write a Program to enter age of a person and check whether "CAN VOTE" or "CAN NOT VOTE".
6. Write a Program to enter a number and check whether it is "EVEN NUMBER" OR "ODD NUMBER".
7. Write a Program to enter 3 number and print largest number among them using nested if.
8. Write a Program to enter selling price and cost price of an item and check "PROFIT", "LOSS" or "NO PROFIT NO LOSS" using ladder else-if.
9. Write a Program to enter marks of 3 subject of a student, calculate their total and percent and print the result according to the percent using ladder else-if: -

S.NO.	PERCENT	RESULT
1.	Percent above or equal to 60	FIRST DIVISION
2.	Percent between 50 and 60	SECOND DIVISION
3.	Percent between 40 and 50	THIRD DIVISION
4.	Percent Below 40	FAIL

10. Write a Program to enter an operator and print the result of related operation according to the operator using switch: -

S.NO.	OPERATOR	RESULT
1.	+	ADDITION OF 2 NO.
2.	-	SUBTRACTION OF 2 NO.
3.	*	MULTIPLICATION OF 2 NO.
4.	/	DIVISION OF 2 NO.
5.	OTHERWISE	NONE OPERATION

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11. Write a Program to convert and print the distance in meter, feet, inches and centimeter if distance is input through the keyboard.
12. Write a Program to check whether a year entered through keyboard is a leap year or not.
13. Write a Program to find the factorial value of any number entered through keyboard.
14. Write a Program to compute the sum of the first n terms of the following series
  - a.  $S = 1 - 2 + 3 - 4 + 5 - 6 \dots$
15. Write a Program to print all prime numbers from 1 to 100.
16. Write a Program to print a triangle of stars as follows (take number of lines from user):
  - a. \*
  - b. \*\*\*
  - c. \*\*\*\*\*
  - d. \*\*\*\*\*
  - e. \*\*\*\*\*
17. Write a function that checks whether a given string is Palindrome or not. Use this function to find whether the string entered by user is Palindrome or not.
18. Write a Program to perform following operations on strings:
  - a. Concatenate two strings
  - b. Compare two strings
  - c. Calculate length of the string
  - d. Convert all lowercase characters to uppercase
  - e. Convert all uppercase characters to lowercase
  - f. Reverse the string
19. Create a structure Student containing fields for Roll No., Name, Class, Year and Total Marks. Initialize the structure and print the initialized value on screen.
20. Write a Program to explain pointer arithmetic.
21. Write a Program to explain the concept of call by value and call by address mechanism.
22. Write a Program to read Content of file and print them on screen.
23. Write a Program to copy content of one file into another.
24. Write a Program to explain following function-
  - a. fopen ( ),
  - b. fclose ( ),
  - c. fputs ( ),
  - d. fgets ( ),
  - e. fread ( ),
  - f. fwrite ( )
25. Write a Program to find whether given no is prime or not.
26. Write a Program to display sum of the series  $1 + 1/2 + 1/3 + \dots + 1/n$ .
27. Write a Program to display series and find sum of  $1 + 3 + 5 + \dots + n$ .
28. Write a Program to use bitwise AND operator between the two integers.
29. Write a Program to add two number using pointer.
30. Write a Program to find sum, subtraction, multiplication, & transpose of matrices.
31. Write a Program to reverse a number using pointer.
32. Write a Program to show input and output of a string.
33. Write a Program to find square of a number using function.
34. Write a Program to find factorial of a number using functions.
35. Write a Program to show table of a number using function.
36. Write a Program to show call by value.
37. Write a Program to show call by reference.
38. Write a Program to find largest of two numbers using functions.
39. Write a Program to find factorial of a number using recursion.
40. Write a Program to find whether a string is palindrome or not.

keywords Pointers, array, switch, function, string

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## PART-C(CSSCC -2P)

### Learning Resources: Text Books, Reference Books and Others

#### Text Books:

4. Programming in C – Yashwant Kanetkar
5. Programming in C – Venugopal
6. The Programming Language – Kemigham and Ritchie [ Prentice Hall]
7. Application Programming in C – R, Johnson- baugh & Martin Kalin Macmillian International Editions.
8. The art of C Programming – Jones, Robin & Stewart, NArosa Publishing House
9. C Problem Solving and Programming – A. Kenneth, Prentice Hall International.
10. C MADE EASY – H. Schildt, McGraw Hill Book Company

#### Online Resources :

11. [https://diksha.gov.in/cbse/play/collection/do\\_313109215407038464184?contentType=TextBook](https://diksha.gov.in/cbse/play/collection/do_313109215407038464184?contentType=TextBook)
12. <https://ndl.iitkgp.ac.in/>
13. <https://swayam.gov.in/explorer?category=SCHOOL>
14. <https://ndl.iitkgp.ac.in/>
15. <https://nptel.ac.in/courses>
16. <https://spoken-tutorial.org/>
17. <https://cec.nic.in/cec/moocsug>
18. First C Program - English - YouTube
19. <http://epathshala.nic.in>

### PART-D: Assessment and Evaluation

- Examination of lab. course – CSSCC – 1P shall be conducted combined with CSSCC – 2P at the end of Sem.-II
- Exam pattern shall be followed to Departmental laboratory norms and questions will be determined by the department / teacher concerned
- Marks distribution in each course shall be determined by the department / course tutor following the guidelines of NEP-2020.

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