

Revised

Govt. V.Y.T. PG Autonomous College Durg (CG)



**SCHEME OF EXAMINATION
&
SYLLABUS**

Of

**Choice Based Credit System (CBCS)
for**

**Bachelor of Computer Application
(BCA) I & II Semester Exam**

Under

Department of Computer Science

Session – 2022-23

(Approved by Board of studies)

GOVT. V.Y.T. PG. AUTONOMOUS COLLEGE DURG
DEPARTMENT OF COMPUTER SCIENCE
SCHEME OF SYLLABUS FOR AY (2022-23)

BCA -I SEMESTER

Course Code	Course Name	Theory Marks		Internal Marks		Practical Marks		Total Marks		Teaching Load per Week			Credits
		Max. (A)	Min. (B)	Max. (C)	Min. (D)	Max. (E)	Min. (F)	Max.	Min.	L	T	P	
BCA 101(L)	DSC1-Discrete Mathematics	80	32	20	8			100	40	5	1		4
BCA 102(L)	DSC2-PC Software and Multimedia	60	24	15	6			75	30	5	1		3
BCA 103(L)	DSC3-Problem Solving and Programming in C	60	24	15	6			75	30	5	1		3
BCA 104(L)	AEC1-Communication Skills (English)	50	20	10	4			50	20	5	1		2
BCA 105(P)	LAB I: PC Software and Multimedia Lab					25	10	25	10	-	-	1X2	1
BCA 106(P)	LAB II: Programming in C Lab					25	10	25	10	-	-	1X2	1
BCA 107(L+P)	SEC1 – Principles of Object-oriented Programming	25	10			25	10	50	20	1		1x2	2
BCA 108 (L)	GEC1- Business Economics	80	32	20	8			100	40				4
BCA 109 (L+P)	VAC1- YOGA	25	10	20	8	25	10	50	20	1		1x2	2
TOTAL MARKS								550	220				22

For Non-Mathematics Students

BCA110 (L)	Bridge course for BCA (only for non-mathematics students)	50	20					50	20				
TOTAL MARKS								600	240				

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CC- Core Course, AEC-Ability Enhancement Course, SEC- Skill Enhancement Course

List of Core Courses (CC):

1. Discrete Mathematics
2. PC Software and Multimedia
3. Programming in C++
4. Web Technology
5. Computer Fundamentals
6. Calculus And Differential Equations
7. Database Management System
8. Foundation Course (English)
9. Computer Networks
10. Programming in Java
11. Data Structure
12. Statistical Analysis
13. Software Engineering
14. Dot Net Technology
15. Introduction to AI and Expert System
16. Programming in Python
17. Computer System Architecture

List of Ability Enhancement Courses (AEC):

1. Communication Skills (English)
2. Environmental Science

List of Generic Elective Courses (GEC):

1. **Business Economics**
2. **Business Organization and Management**
3. Operating System with LINUX
4. Digital Electronics
5. Design and Analysis of Algorithm
6. Theory of Computation

List of Skill Enhancement Course (SEC):

1. **Principles of Object-oriented Programming**
2. Web Designing with HTML
3. Web Development in PHP
4. SQL Programming (MySQL)
5. Software development Using Python
6. Software development Using ASP.NET
7. Programming in Java
8. Office Automation using PC Software
9. R Programming
10. Machine Learning using Python
11. Data Science using Python
12. Web Technology

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DEPARTMENT OF COMPUTER SCIENCE
SYLLABUS FOR AY 2022-23
COURSE CODE: BCA-101
DISCRETE MATHS

Max Marks: 80

Min Marks: 32

NOTE: - The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice. Only Simple calculator is allowed not scientific calculator.

Course Objectives	Course Outcomes
<p>This course intends to provide in-depth knowledge of the Discrete Mathematics and advanced topics related to Boolean algebra, set theory, grammars, graph theory, and their applications.</p>	<p>On successful completion of the course, the student will be able to:</p> <p>CO1: Discuss mathematical logic and Boolean algebra in switching circuits & logic circuits.</p> <p>CO2: Discuss the type of relationship and apply the knowledge using the Hass diagram.</p> <p>CO3: Discuss the set theory and recursive function. Also, they will construct the grammars.</p> <p>CO4: Describe graph theory and its applicability in various computer applications.</p> <p>CO5: Discuss problems in various fields in computer application using the basic concepts of group theory and coding.</p>

UNIT - I

Recall of statements and logical connectives, tautologies and contradictions, logical equivalence, algebra of propositions quantifiers, existential quantifiers and universal quantifiers.

UNIT - II

Boolean algebra and its properties, algebra of propositions as an example, De Morgan's Laws, Partial order relations g.l.b., l.u.b. Algebra of electric circuits and its applications. Design of simple automatic control system.

UNIT - III

Boolean functions - disjunctive and conjugative normal forms Boolean's expansion theorem, fundamental forms. Many terminal Networks.

UNIT - IV

Arbitrary Cartesian product of sets, Equivalence relations, partition of sets, injective, subjective, objective maps, binary operations, countable, uncountable sets.

UNIT -V

Basic Concept of Graph Theory, Sub graphs, Trees and their properties, Binary Trees, Spanning Trees, Directed Trees, Planar graphs, Euler Circuit, Hamiltonian Graph. Chromatic number.

BOOKS RECOMMENDED:

- | | |
|--|---------------------------------|
| 1. BOOLEAN ALGEBRA AND ITS APPLICATION | - J.E. WHITESITT |
| 2. CONCEPTS OF MODERN MATHEMATICS | -P.L. BHATNAGAR |
| 3. DISCRETE MATHEMATICS | -B.R. THAKUR |
| 4. GRAPH THEORY AND ITS APPLICATIONS | -NARSINGH DEV. |
| 5. DISCRETE MATHS | -C.L.LIU T M HILL |
| 6. A TEXT BOOK OF DISCRETE MATHEMATICS | - SWAPNA KUMAR SARKAR, S. CHAND |

GOVT. V.Y.T. PG. AUTONOMOUS COLLEGE DURG
DEPARTMENT OF COMPUTER SCIENCE
SYLLABUS FOR AY 2022-23
COURSE CODE: BCA-102(L)
PC SOFTWARE & MULTIMEDIA

Max Marks – 60

Min Marks – 24

NOTE: - The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice.

Course Objectives	Course Outcomes
<p>To provide hands-on use of Microsoft Office applications Word, Excel, Access and PowerPoint. Also, to experience the students with multimedia and various types of multimedia software.</p>	<p>On successful completion of the course, the student will be able to:</p> <p>CO1: Understand creating and formatting basic documents in word processor software with their properties</p> <p>CO2: Understand the creating and using formulas and charts in worksheets</p> <p>CO3: Able to create presentations and can apply various animations on it.</p> <p>CO4: Understand the creating and using structure query language queries in database</p> <p>CO5: Able to understand, create and manage various multimedia and its tools</p>

UNIT-I MS-Word

Introduction to word processing software and it's features, creating new document, saving document opening and printing document. **Home Tab** : setting fonts, paragraph settings various styles (normal no spacing, heading1, heading2, title, strong), find & replace, format painter, copy paste and paste special. **Insert tab** : Pages, tables, pictures, clipart, shapes, header & footer, word art, equation and symbols. **Page Layout Tab** : Page setup, page background, paragraph (indent and spacing). **Mailing Tab**: create envelopes and labels, mail merge. **Review Tab**: spelling and grammar check, new comment, Protect document, **View Tab**: document views, zoom, window (new window, split, switch window).

UNIT-II MS-Excel

Introducing Excel, use of excel sheet, creating new sheet, saving, opening, and printing workbook, **Home Tab**: Font, alignment, number, styles and cells and editing, conditional formatting. **Insert Tab**: Table, charts (column chart, pie chart, bar chart, line chart) and texts (header * footer, word art, signature line). **Page Layout Tab**: page setup options, scale to fit (width, height, scale). **Formulas Tab**: Autosum (sum, average, min, max), logical (IF, and, or, not, true, false), math & trig (sin, cos tan, ceiling, floor, fact, mod, log), watch window. **Data Tab**: get external data from MS Access, sort and filter options, Data validation, group and ungroup. **Review Tab**: protect sheet, protect workbook, share workbook. **View Tab**: page breaks, page layout, freezing panes, split and hide.



UNIT-III MS-Power Point

Introducing power point, use of power point presentation, creating new slides saving, opening, and printing. **Home Tab** : new slide, layout, reset, delete, setting text direction, align text, convert to smart art, drawing options. **Insert Tab** : Table, picture, clipart, photo album, smart art, shapes and chart, movie and sound, hyperlink and action, text box, word art, object. **Desing Tab**: page setup options, slide orientation, applying various themes, selecting background style and formatting it. **Animations Tab** : custom animation for entrance, exit and emphasis, applying slide transition, setting transition speed and sound, animation on rehears timing. **Slide show & view Tab** :start slid show options, setup option. **View Tab** : presentation views, colours and window option.

UNIT-IV MS-Access and MySQL Server

Front end and back end of application, introduction to dbms, creating blank databases, saving it in accdb format, definign data types in ms access. Home Tab: datasheet view, design view, pivot chart view, pivot table view, sort and filter options. Create Tab: creating tables, creating reports, query wizard. External Data Tab : importing data from access and excel sheet, exporting databaase to excel and ms word. Datasheet Tab: Relationships, fields and columns options, datatype and formatting options. Introduction to MySQL Server. Creating Database and Database Tables in MySQL Server.

UNIT-V Animations and Graphics

Definition of multimedia, application of Multimedia, Basic Concept of 2D/3D Animation, Principle of animation, Hardware and software resources requirement for animation, introduction of various file formats (.mpeg, .gif, .jpeg, .mp4, .tif, .flv). **Creating a new movie in flash**: Get set Up, Input Text, Animate Text, drawing and painting with tools, brush, create basic shapes like Oval, Rectangle & Polystar Tools, tools working with object & filing the object, Transformation, object properties dialog box, creating layers motion tweeing, shape tweeing, mask layers, basic action scripts, importing sound through Flash.

BOOKS RECOMMENDED : -

1. MICRODOFT OFFICE 2007 FUNDAMENTAL: - L STORY, D WALLS.
2. MS OFFICE : - S S SHRIVASTAVA, FIREWALL MEDIA.
3. OFFICE 2000 MADE EASY: - ALAN NEIBAUER, TATA MCGRAW HILL
3. FLASHMX BIBLE -ROBERT REINHART
4. SAMS TEACH YOURSELF MACROMEDIA FLASH 8 IN 24 HOURS- PHILLIP KERMAN
5. PHOTOSHOP BIBLE -WILLEY PUBLICATION
6. HOW TO DO EVERYTHING WITH MACROMEDIA -BONNIE BLAKE, DOUGSAHLIN
7. MULTIMEDIA MAKING IT WORKS: - BY TAY VAUGHAN TATA MCGRAW HILLS
8. www.mysql.com



GOVT. V.Y.T. PG. AUTONOMOUS COLLEGE DURG
DEPARTMENT OF COMPUTER SCIENCE
SYLLABUS FOR AY 2022-23
COURSE CODE: BCA - 103(L)
PROBLEM SOLVING AND PROGRAMMING IN 'C'

Max Marks – 60

Min Marks – 24

NOTE:- The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice.

Course Objectives	Course Outcomes
<p>This course intends to provide the fundamental programming methodologies and problem solving techniques in the C programming language.</p>	<p>On successful completion of the course, the student will be able to</p> <p>CO1: Understand modular programming approach and learn different data types, operators and its types, operator precedence and associativity, Input-Output functions in C language.</p> <p>CO2: Understand various Control Constructs and function in C language.</p> <p>CO3: Understand the concepts of array , string structure, union and enum in C Language.</p> <p>CO4: Describe pointers and their usage using C awith its various applications.</p> <p>CO5: Discuss Pre-processor file and file handling and the features of Object oriented programming.</p>

UNIT-I Fundamentals of C Programming

Overview of C : History of 'C', Structure of 'C' program. Keywords, Tokens, Data types, Constants, Literals and Variables, Operators and Expressions, Arithmetic operators, Relational operator, Logical operators, Expressions, Operator: operator precedence and associativity Type casting, Console I/O formatting, Unformatted I/O functions: getch(), getchar, getche(), getc(), putc(), putchar().

UNIT- II Control Constructs

If-else, conditional operators, switch and break, nested conditional branching statements, **Loops:** For, do..while, while, Nested loops, break and continue, goto and label, exit function.

Functions:-definition, **Function components:** Function arguments, return value, function call statement, function prototype. Type of function, Scope and lifetime of variable. Call by value and call by reference. Function using arrays, function with command line argument. User defined function: math and character functions, Recursive function.

UNIT-III Array, String, Structure and Union

Array:-Array declaration, One and Two dimensional numeric and character arrays. Multidimensional arrays.

String:-String declaration, initialization, string manipulation with/without using library function.

Structure, Union & Enum- Structure: basics, declaring structure and structure variable, typedef statement, array of structure, array within structure, Nested structure; passing structure to function, function returning structure. **Union:** basics, declaring union and union variable, **Enum:** declaring enum and enum variable.

UNIT- IV Pointer

Definition of pointer, pointer declaration, using & and *operators. Void pointer, pointer to pointer, Pointer in math expression, pointer arithmetic, pointercomparison, dynamic memory allocation, functions – malloc, calloc, realloc and free, pointers vs. Arrays, Arrays of pointer, pointer to array, pointers to functions, function returning pointer, passing function as argument to function, pointer to structure, dynamic array of structure through pointer to structure.

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UNIT-V File Handling, Preprocessor and Introduction to OOP


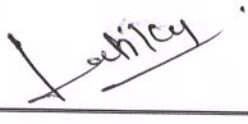
File handling: file pointer, file accessing functions: fopen(), fclose(), fputc(), fgetc(), fprintf(), fscanf(), fread(), fwrite(), feof(), fflush(), rewind(), fseek(), ferror(). File handling through command line argument. **Introduction to C preprocessor:** #include, #define, conditional compilation, **Directives:** #if, #else, #elif, #endif, #ifndef etc.

BOOKS RECOMMENDED: -

1. PROGRAMMING IN ANSI C:- E BALAGURUSAMI, TATAMCGRAW -HILL, THIRD EDITION.
2. LET US C – YASHWANTKANETKAR INFINITY SCIENCE PRESS, EIGHTH EDITION.
3. MASTERING IN C–K R VENUGOPAL, TATAMCGRAW-HILL
3. THE C PROGRAMMING LANGUAGE –BRIAN W. KEMIGHAM, DENNIS M. RITCHE, PRENTICE HALL, SECOND EDITION
4. APPLICATION PROGRAMMING IN ANSI C - R. JOHNSON-BAUGH, MARTIN KALIN, MACMILLAN SECOND EDITION.
5. THE SPIRIT OF C - MULLISH COOPER, JAICO PUBLISHING HOUSE
6. HOW TO SOLVE IT BY COMPUTERS - R.G.DROMEY, PRENTICE HALL OF INDIA.

Name and Signatures

V.C. Nominee	Departmental members
Subject Expert	1. Mr. Dileep Kumar Sahu 
Subject Expert.....	2. Mrs. Latika Tamrakar
Alumni(member).....	
Prof. from other Dept. of Sc. Faculty 	
Specialist from Industry	

GOVT. V.Y.T. PG. AUTONOMOUS COLLEGE DURG
DEPARTMENT OF COMPUTER SCIENCE
SYLLABUS FOR AY 2022-23
COURSE CODE: BCA -104(L)
COMMUNICATION SKILLS (ENGLISH)

Max Marks : 50

Min. Marks:20

NOTE:- The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice.

Course Objectives	Course Outcomes
<p>This course is designed to enable the students of computer education to speak and write English with a fare degree of grammatical correctness.</p> <p>The inputs in the course contents are designed to let the students develop their communication skills and effectively write and speak in business scenario.</p>	<p>On successful completion of the course, the student will be able to:</p> <p>CO1: With knowledge of English as a global language.</p> <p>CO2: To develop their English communication skills.</p> <p>CO3: To develop their writing skills.</p> <p>CO4: To speak and write grammatically correct English.</p> <p>CO5: To learn email writing strategies.</p>

Unit	Topics	Credit	Periods	Marks
I	<ul style="list-style-type: none"> ● Introduction to Communication Skills ● Significance of Communication skills ● Four Communication Skills SLRW 	1	7	15
II	<ul style="list-style-type: none"> ● Official Communication - notice,agenda of meeting, minutes of meeting ● Modern media of Communication- email,(language of emails,format), video conferencing 	1	7	15
III	<ul style="list-style-type: none"> ● Report writing ● Description of events ● Précis writing 	.5	7	15

gdb

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IV	<ul style="list-style-type: none"> ● Letter writing (formal and informal) ● Reading comprehension 	.5	6	15
V	<ul style="list-style-type: none"> ● Presentation ● Group discussion 	1	9	20


Note:

1. To pass the examination, students must score 20 out of 50 Marks.
2. The Internal Assessment will be of 10 marks.
3. In case , any change or modification is prescribed by Central Board of Studies or Higher Education Department, Govt. of Chhattisgarh with respect to content or distribution of marks for under graduate syllabi, it will be implemented accordingly.
- 4

Book Recommended-

1. Mitra, K. Barun : Personality Development and Soft Skills
2. J.R.Kadam, V.G.Patil, A.M.Murai, S.A. Dhenge: Communication Skills and Personality Development.

Name and Signatures

V.C. Nominee Subject Expert Subject Expert..... Alumni(member)..... Prof. from other Dept. of Sc. Faculty Specialist from Industry	Departmental members 1. Mr. Dileep Kumar Sahu  2. Mrs. Latika Tamrakar
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GOVT. V.Y.T. PG. AUTONOMOUS COLLEGE DURG
DEPARTMENT OF COMPUTER SCIENCE
SYLLABUS FOR AY 2022-23
COURSE CODE: BCA-105 (P)
LAB I: PC SOFTWARE AND MULTIMEDIA LAB

Max Marks: 25

Min. Marks: 10

Course Objectives	Course Outcomes
<p>Objective of this course is:</p> <ol style="list-style-type: none"> To enabling the students in crafting professional word documents Excel spread sheets, power point presentations using the Microsoft suite of office tools. To familiarize the students in preparation of documents and presentations with office automation tools. 	<p>On successful completion of the course, the student will be able to:</p> <p>CO1: Understand creating and formatting basic documents in word processor software with their properties. CO2: Understand the creating and using formulas and charts in worksheets CO3: Able to create presentations and can apply various animations on it. CO4: Understand the creating and using structure query language queries in database CO5: Able to understand, create and manage various multimedia and its tools.</p>

1. Scheme of Examination:-Practical examination will be of 3 hours duration. The distribution of practical marks will be as follows:

Programme 1 (MS-Office)	-	5
Programme 2 (MS-Office)	-	5
Programme 4 (Multimedia)	-	5
Viva- Voice	-	5
[Practical Copy + Internal Record]	-	5
Total		- 25

2 In every program there should be comment for each coded line or block of code.

3 Practical file should contain printed programs with name of author, date, path of program, unit no. and printed output.

4 All the following programs or a similar type of programs should be prepared.

List of Practical

MS- WORD

File New, Open, Save, Cut, Copy, Paste, Drag Drop, Bullets and Numbering, Undo, Redo, Find, Replace, Paragraph Formatting, Character Formatting and Page Formatting.



1. Open a document. Type the following text and perform the tasks as instructed below:-

Working with Word Processor

As already mentioned, a word processor is a package that processes textual matter and creates organized and flawless documents. In addition to it a word processor not only remove all the limitations of typewriter but also offers various useful features that cannot be even dreamt of with typewriter.

Also if same textual matter is to be reproduced with minor changes, retyping the only option in typewriters.

The word processing (and word processor) originated way back in 1964 when special typewriters. Magnetic Tape Selectric typewriters (MIST) were launched by IBM (International Business Machines).

- (i) Insert the following text after the first paragraph
The main components of a word processing system are listed below:
 - a. Computer
 - b. Printer
 - c. A word processing software
- (ii) Save the document as Word1.doc
- (iii) Move the second paragraph to the end of the document. Using drag & drop.
- (iv) Move the second paragraph in the end of the document using cut, paste operations.
- (v) Undo the above actions.
- (vi) Now use Redo actions
- (vii) Go to the End of the document (in one step)
- (viii) Go to the Beginning of document (in one step)
- (ix) Insert page break before the third paragraph.
- (x) Search the word "computer: in your document with options Match case, find whole words only.
- (xi) Replace the word "typewriters" with "word processor"
- (xii) Undo the above action
- (xiii) Remove All page breaks from your document
- (xiv) Change the magnification of your document to different percentages using zoom features.
- (xv) Format the above written paragraphs and give the options as follows:
 - Alignment justified
 - Indentation: left 0.2 right:0.2
 - Spacing: before 6 pt. after:6 pt.
 - Special: first line by :0.4"
 - Line spacing 1.5 lines.
- (xvi) Set the default tab stop to 0.3"
- (xvii) Set the margins to 1.25
- (xviii) Format the page using
 - a. Left margin:0.5, right margin: 0.5
 - b. Top margin:1.5, bottom margin:0.5
 - c. Gutter Margin: 1indentation: left 0.2 right:0.2
 - d. Header Margin:0.5
- (xix) Format the each occurrence of group of words 'Word Processor' as bold, italic, under line and small caps using find and replace with formatting options.
- (xx) Align the heading to Center and make it bold, underlined and italicized.

File New, Open, Save, Find, Replace, Paragraph Formatting, Character Formatting and Page Formatting.

2. Type the text as show below and perform the tasks as directed:

Computers

COMPUTER is an electronic device that processes data and gives meaningful information. Computers are being used in almost all the fields today



EXPERT SYSTEMS

HUMAN THINKING AND ARTIFICIAL INTELLIGENCE

Can computer think?

AI at work Today: Natural Language programs and Expert Systems.

THE IMPACT OF COMPUTERS ON PEOPLE

The Positive Impact

The Potential Dangers

THE IMPACT OF COMPUTERS ON ORGANIZATIONS

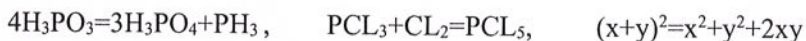
The information Processing Industry

The Positive impact on Using Organizations

The Potential Dangers for Using Organizations

1. Search for the word 'Computer' in the entire document. All the occurrences of the given word are to be searched irrespective of the case.
2. In the above question note that word also searches 'computerization and 'computerisations'. Now make sure that this time Word searches only for the word 'computer' in the entire document.
3. Change the entire uppercase letter to lowercase.
4. Give a heading to the above written text 'COMPUTERS IN TODAY'S WORLD'
5. Centre aligns the Heading text Computer that appears in first line.
6. Apply outside border to entire document.
7. Apply outside border to the just heading text.
8. Change page setup according to the following specifications
Top margin: 1.5", bottom margin: 1.5"
Gutter: 1", left margin: 1.5"
Right margin: 1"
Page width: 7.5", page height: 6.5 "
Orientation: portrait
9. Give a header 'Creations' and footer 'The school of computing'. The footer should also consist of page no's.
10. Give appropriate commands for giving different header and footers for first page and odd & even pages.
11. Save and close the document.

3. Write the following equations in MS-Word:



4. Write the following equations in MS-Word:



5. Write the following in MS-Word:

1. Preheat the oven to 220°C.
2. Copyright ©
3. Registered ®
4. Trademark ™

gdr *SB* *Subitoy*

6. Create the following table in MS-Word:

Name		Rahul	
Roll No.		101	
Subject	Max	Min	Obtain
Java	100	33	75
Multimedia	100	33	70

7. Create a document in MS-Word. Set the watermark as **Microsoft**. Also write the following text as formatted below:

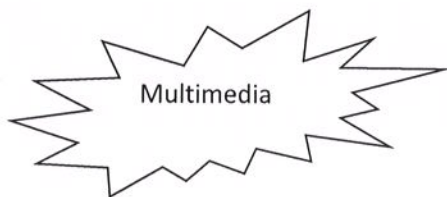
Measuring programming progress by lines of code is like measuring aircraft building progress by weight.

--Bill Gates

8. Create the following:



9. Create the following:



10. Create the following table in MS-Word:

Admission 2021-2022

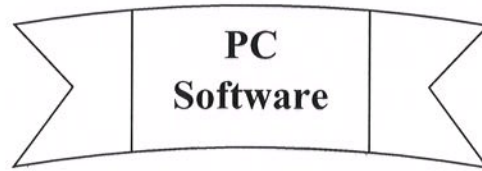
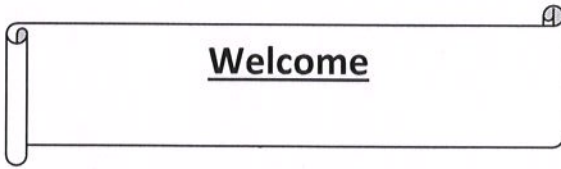
Course	OC	OB	MBC	SC/ST	Total
Computer Science	9	18	5	5	37
Commerce	14	25	6	5	50
Mathematics	12	20	4	4	40

11. Create Table as shown

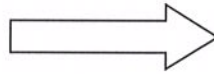
Car		Price
Maruti	Omni Van	200000
	Maruti 800	242000
Tata	Sumo	390000
	Sierra	447000

[Handwritten signatures and marks]

12. Insert the following in MS-Word.



Rabbit



14. Write the following in MS-Word.

- This is sentencecase.
- this is lowercase.
- THIS IS UPPERCASE.
- This Is Capitalise Each Word.
- tHIS IS tOGGLE cASE.
-

15. Create the following list in MS-Word:

1. Actors
 1. Bruce Willis
 2. Gerard Butler
 3. Vin Diesel
2. Actress
 1. Julia Roberts
 2. Angelina Jolie
 3. Kate Winslet
 4. Cameron Diaz

16. Write the following in MS-Word:

1. Cricket Players
 3. Batsman
 1. Sachin Tendulkar
 2. Rahul Dravid
 3. Virendra Sehwag
 4. Bowler
 - a. Kumble
 - b. Zaheer Khan
 - c. Balaji
 5. Spinner
 - a) Harbhajan
 - b) Kumble
 - c) Kartik

17. Write a letter to send invitation to your friend inviting on your birthday.

18. Create labels for your friends' address.

[Handwritten signatures and scribbles]

MS – EXCEL

1. Create the following worksheet and save the worksheet as wages.xls
 PACE COMPUTERS (ATC CEDT), Govt. of India
 Payroll for Employee (Temporary)

Today's date :		Pay Rate :	
Worker's Name	Hired On	days Worked	Gross Wages
Kushagra	3-Mar-07		
Pradeep	4-Mar-07		
Puneet	5-Mar-07		
Rajeev	6-Mar-07		

- (I) Calculate days work and gross wages

2. Create the following worksheet and save the worksheet as wages.xls

Name	Basic (monthly) (Rs.)	HRA(% of basic)	DA (Rs.)	Total Salary (1997)	Bonus (Rs)	Total Salary (1998)	% (Increase)
Shirome	5000	10	450		1200		
Somya	9000	15	800		200		
Tanya	7000	12	900		1800		

- Calculate the total salary as sum of Basic salary, HRA ,DA, for each employee for 1997
- Calculate total salary for year 1998 as sum of salary of 1997 and bonus
- Calculate % increase in salary from 1997 to 1998

3. Create a worksheet as follows

Pace computer (ATC CEDT) Govt. Of India
 Payroll for employee (Permanent)

Empcode	name	doj	salary	bonus	net salary
E001	Meenu	3-Mar-95	5000		
E002	Manoj	4-Mar-06	4000		
E003	Preeti	3-Mar-95	4800		
E004	Sumita	6-Mar-07	7500		

- i. allow bonus 8000 to employee having service >2 year other wise allow bonus 3000
- ii. find net salary as sum of bonus and salary

4. create the worksheet as follows

Roll No	Name	English	Maths	Total	Average	Division
101	Kushagra	95	99			
<i>102</i>	Ajay	92	95			
<u>103</u>	Vijay	70	69			

Class Average	
---------------	--

- i. find Total of two subject for each student
- ii. find average of two subject for each student
- iii. find class as average of average column
- iv. find division of student as first, second, third, assume percentage of division of your own and maximum marks in each student as 100
- v. Apply conditional formatting for division column, first division should be in bold, second division should be in italic and third division should be underline

5. Create macro in excel to make selected cell, bold, italic outside bordered and center across select.

6. create bar chart with given data

	2001	2002	2003
Tea	19	23	25
Coffee	22	24	22
Sugar	45	40	45

- (I) Provide heading production detail
- (II) Provide z axis title; lacks metric tone
- (III) Provide x axis title year

7. Create a table with column heading as shown below and using form perform data entry of records.

Zone	Department	Employee	Salary
West	Marketing	Mukesh	10500
East	Sales	Rahul	20000
South	Marketing	Suresh	5500
North	Marketing	Anju	25000
South	Sales	Neeraj	8000
North	Sales	Ajay	8000
South	Marketing	Mahesh	7500
West	Sales	Rajesh	4500

- i. Sort the data according to Zone then by Department
- ii. Use group and outline feature to show & hide details

8. Create a table with column heading as shown below and using form perform data entry of records.

Zone	Department	Employee	Salary
West	Marketing	Mukesh	10500
East	Sales	Rahul	20000
South	Marketing	Suresh	5500
North	Marketing	Anju	25000
South	Sales	Neeraj	8000
North	Sales	Ajay	8000
South	Marketing	Mahesh	7500
West	Sales	Rajesh	4500

- (I) Use filter command to show records having zone: West
- (II) Use filter command to show records having zone: West and salary less than 5000
- (III) Use filter command to show records having salary greater than 10000

9. Create pivot table using Data of exercise 8

10. Create Table using feature

Principle	1500
Rate	4%
Time	5

300	3	4	5
1%	45	60	75
2%	90	120	150
3%	135	180	225

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11. Using goal seek feature find out the interest rate it must be to earn interest 500

Principle 1500

Rate 4%

Time 5

Interest 300

MS-Access

Q.1. Create the following table in MS-Access:

Field Name	Data Type	Description
ContactID	AutoNumber	Primary Key
ContactType	Text 50	Type of contact (Wholesale, dealer, other)
Name	Text 50	Contact's first name
Company	Text 50	The Contact's employer
Address	Text 50	Contact's address
City	Text 50	Contact's city
State	Text 50	Contact's state
ZipCode	Text 50	Contact's zip code
Phone	Text 50	Contact's phone
Fax	Text 50	Contact's fax
E-Mail	Text 100	Contact's e-mail address
WebSite	Text 100	Contact's Web address
LastSalesDate	Date/Time	The most recent date the contact purchased something
DiscountPercent	Number	The customary discount provided to the customer
Notes	Memo	Notes and observations regarding this customer
Active	Yes/No	Whether the customer is still buying or selling products

Q.2. Create the following tables in MS-Access with the referential integrity-foreign key:

1. tblProducts

Primary Key - ProductID

ProductID	Description	Category	Quantity	Cost	RetailPrice	Product Number	SalePrice	Taxable

2. tblSalesLineItems

Primary Key - SalesLineItemID

SalesLineItemID	InvoiceNumber	ProductID	ProductNumber	Quantity	Description	Price	Discount

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3. tblSales

Primary Key – InvoiceNumber

InvoiceNumber	SaleDate	InvoiceDate	Buyer	PaymentMethod	TaxLocation	TaxRate
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MS PowerPoint

- Q 1 Create a PPT of Atleast 10 Slides with one slide for comparison, one slide displaying a chart with the table.
- Q 2 Create a PPT presentation use rehearse timing for the slide show
- Q 3 Create PPT presentation slide import sound and video clips.
- Q 4 Create PPT presentation with hyperlinking.
- Q 5 Create PPT presentation and apply themes and transitions.

FLASH LIST OF PRACTICALS

Q.1. Draw the following shapes neatly in Flash and convert them in symbols. Also apply different transformations like scale, rotate, skew, skip etc.

1. Fish	2. Palm Tree
3. Swan	4. Teddy Bear
5. Tree	6. Santa Claus
7. House	8. Car
9. Ballon	10. Boat

- Q.2. Create a Flash movie to draw the symbol of an animal and apply motion between.
- Q.3. Create a Flash movie to create a minimum of five layers (Water, fish, bubbles, plants etc) of an aquarium and apply motion between.
- Q.4. Create a Flash movie to create mask.
- Q.5. Create a Flash movie to create Fade In/Fade Out in four pictures.
- Q.6. Create a Flash movie to create the symbol of a wheel and scale and rotate it.
- Q.7. Create a flash movie to create growing circles.
- Q.8. Create hand writing in Flash.
- Q.9. Create a Flash movie of a moving car with rotating wheels.
- Q.10. Transform a circle into a square using shape tween.
- Q.11. Create a Flash movie to import text from MS-Word and apply different transformations.
- Q.12. Create a Flash movie to demonstrate onion skin markers.
- Q.13. Create a Flash movie to create ripple effect.
- Q.14. Create a Flash movie to demonstrate motion guide.
- Q.15. Create a Flash movie of a sheep climbing a mountain using layers. Tehe scenery should contain mountain, river, trees, clouds, birds, sheep etc.

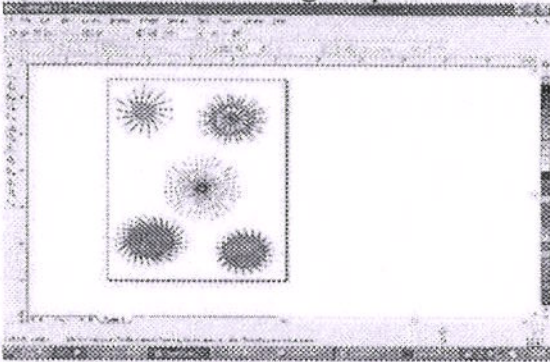
PHOTOSHOP LIST OF PRACTICALS

- Q.1. Import an image in Photoshop and change its background using marquee and lasso tools.
- Q.2. Import an image in Photoshop and copy it using heal brush tool.
- Q.3. Import an image in Photoshop and desaturate it and recolor it.
- Q.4. Use layers and filters to design an image in Photoshop. Use the flatten image as well.
- Q.5. Import an image in Photoshop and desaturate it and reveal selective portions.

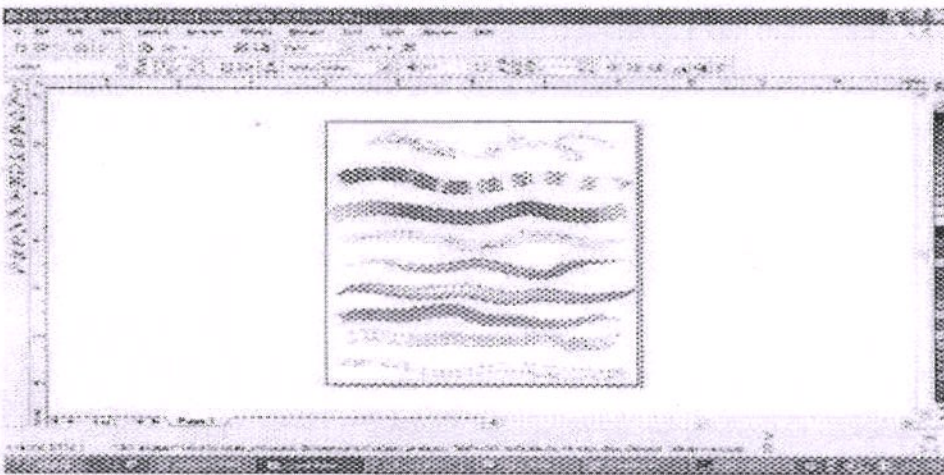


CORAL DRAW LIST OF PRACTICALS

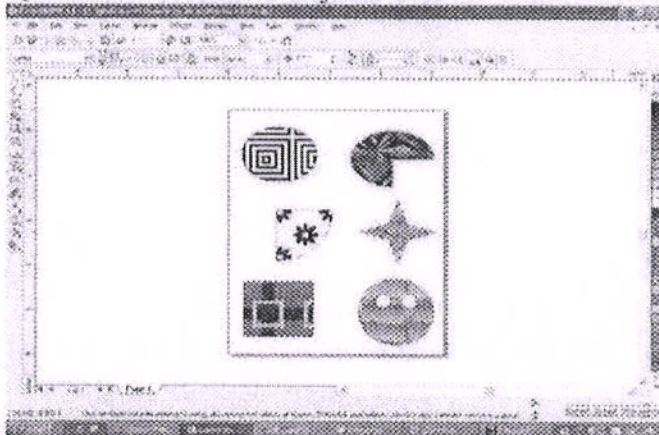
Q1. Draw the following shapes:



Q.2. Use artistic media brush tool to create different backgrounds.

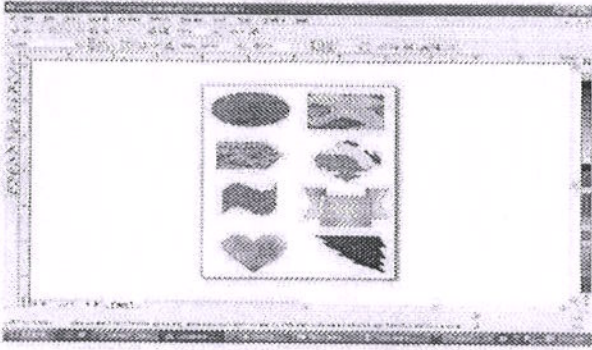


Q 4. Draw different objects and fill them with different patterns.



Q 5. Draw different objects and fill them with different textures.

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1. Making a simple Video file (not using video file) with suitable sound file using Windows Movie Maker
2. Edit Video file, like - changing sound and adding starting and ending banner with title using Windows Movie Maker.
2. Create a .WAV file with the help of Windows sound recorder application.
3. With the help of Adobe Image Ready create attractive .GIF image.
4. Create & save MP4 files using appropriate software.
5. Create & save MP3 files using appropriate software.
6. Insert sound clips in webpage using Front Page application Software.

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GOVT. V.Y.T. PG. AUTONOMOUS COLLEGE DURG
DEPARTMENT OF COMPUTER SCIENCE
SYLLABUS FOR AY 2022-23

Course Code: BCA-106(P)

Practical LAB II: PROGRAMMING IN C LAB

Max Marks: 25

Min. Marks: 10

Course Objectives	Course Outcomes
This course intends to provide in-depth programming knowledge of Problem-solving techniques and programming in C Language.	On successful completion of the course, the student will be able to: CO1: Write program with all type of variables and statements of C. CO2: Discuss modular approach by working with functions CO3: Discuss programming concepts with derived data types. CO4: Know different features file Handling and pre-processors.

1. **Scheme of Examination:** -Practical examination will be two programs and a project demonstration. It will be of 3 hours duration. All programs should be with flow chart and algorithms. The distribution of practical marks will be as follows:

Programme 1	-	5
Programme 2	-	5
Programme 3	-	5
Viva- Voice	-	5
[Practical Copy		
+ Internal Record]	-	5

Total - 25

- In every program there should be comment for each coded line or block of code.
- Practical file should contain printed programs with name of author, date, path of program, unit no. and printed output.
- All the following programs or a similar type of programs should be prepared.

List of Practical

INPUT AND OUTPUT, FORMATTING

- Write a program in which you declare variable of all data types supported by C language. Get input from user and print the value of each variable with alignment left, right and column width 10. For real numbers print their values with two digits right to the decimal.



LOOPS, DECISIONS

2. Write program to print all combination of 1 2 3.

3. Write program to generate following pattern

a) * * * * *

* * * *

* * *

**

*

c) *

* *

* * *

* * * *

* * * * *

b) 1

2 3

4 5 6

7 8 9 10

d) 1

2 1 2

3 2 1 2 3

4 3 2 1 2 3 4

4. Write main function using switch...case, if..else and loops which when called asks pattern type; if user enters 11 then first pattern is generated using for loop. If user enters 12 then first pattern is generated using while loop. If user enters 13 then first pattern is generated using do-while loop. If user enters 21 then a second pattern is generated using for loop and so on.

5. Write program to display number 1 to 10 in octal, decimal and hexadecimal system.

6. Write program to display number from one number system to another number system. The program must ask for the number system in which you will input integer value then the program must ask the number system in which you will want output of the input number after that you have to input the number in specified number system and program will give the output according to number system for output you mentioned.

7. Write a program to perform following tasks using switch...case, loops, and conditional operator (as and when necessary).

a) Find factorial of a number

b) Print Fibonacci series up to n terms and its sum.

c) Print sin series up to n terms and its sum.

d) Print exponential series up to n terms and its sum.

e) Print prime numbers up n terms.

f) Print whether a given year is leap or not.

8. Write program no. 6 but use library function to perform above tasks.

ARRAY

9. Create a single program to perform following tasks using switch, if..else, loop and single dimension character array without using library function:

a) To reverse the string.

b) To count the number of characters in string.

c) To copy the one string to other string;

d) To find whether a given string is palindrome or not.

e) To count no. of vowels, consonants in each word of a sentence and no. of punctuation in sentence.

f) To arrange the alphabets of a string in ascending order.

10. Create a single program to perform following tasks using switch, if..else, loop and single dimension integer array:



- a) Sort the elements.
- c) Search for presence of particular value in array element using linear search.
- d) Search for presence of particular value in array element using binary search.

FUNCTIONS

11. Write program using the function power (a, b) to calculate the value of a raised to b.
12. Write program to demonstrate difference between static and auto variable.
13. Write program to demonstrate difference between local and global variable.
14. Write a program to perform following tasks using switch...case, loops and function.
 - a) Find factorial of a number
 - b) Print Fibonacci series up to n terms and its sum.
 - c) Print Sin series up to n terms and its sum.
 - d) Print exponential series up to n terms and its sum.
15. Write a program to perform following tasks using switch...case, loops and **recursive** function.
 - a) Find factorial of a number
 - b) Print Fibonacci series up to n terms and its sum.
 - c) Print Sin series up to n terms and its sum.
 - d) Print exponential series up to n terms and its sum.
 - e) Print natural series up to n terms and its sum
16. Write a function to accept 10 characters and display whether each input character is digit, uppercase letter or lower case letter.

Array & Function

17. Create a single program to perform following tasks using switch, if..else, loop, function and double dimension integer array of size 3x3:
 - a) Addition of two matrix.
 - b) Subtraction of two matrix.
 - c) Multiplication of two matrix.
 - d) Inverse of matrix.
 - e) Transpose of matrix.
18. Create a single program to perform following tasks using switch, if..else, loop, user defined function and single dimension character array:
 - a) To reverse the string.
 - b) To count the number of characters in string.
 - c) To copy the one string to other string;
 - d) To find whether a given string is palindrome or not.
 - e) To count no. of vowels, consonant in each word of a sentence and no, of punctuations in sentence.
19. Create a single program to perform following tasks using switch, if..else, loop, function and single dimension integer array:
 - a) Sort the elements.
 - b) Find largest element and smallest element.

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- c) Search for presence of particular value in array element using linear search.
- d) Search for presence of particular value in array element using binary search.

STRUCTURE & UNION

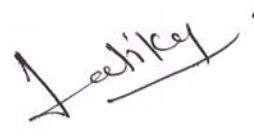
- 20. Create a structure Student having data members to store roll number, name of student, name of three subjects, max marks, min marks, obtained marks. Declare a structure variable of student. Provide facilities to input data in data members and display result of student.
- 21. Create a structure Date with data member's dd, mm, yy (to store date). Create another structure Employee with data members to hold name of employee, employee id and date of joining (date of joining will be hold by variable of structure Date which appears as data member in Employee Structure). Store data of an employee and print the same.

POINTER

- 22. Define union Emp having data members:-one integer, one float and one single dimension character array. Declare a union variable in main and test the union variable.
- 23. Define an enum Days_of_Week members of which will be days of week. Declare an enum variable in main and test it.
- 24. Write a program of swapping two numbers and demonstrates call by value and call by reference.
- 25. Write program to sort strings using pointer exchange.
- 26. Write a program in c using pointer and function to receive a string and a character as argument and return the no. of occurrences of this character in the string.
- 27. Write program to demonstrate pointer arithmetic.

FILE STREAMS

- 28. Write program to copy content of one file to other file removing extra space between words name of files should come from command line arguments.
- 29. Write program to create a file 'data' containing a series of integers and count all even numbers present in the file 'data'.
- 30. Write a program to count no. of tabs, new lines, character and space of a file.
- 31. Write a program to read item number, rate and quantity from an inventory file and print the followings:
 - 1. Items having quantity > 5.
 - 2. Total cost of inventory.



GOVT. V.Y.T. P.G. AUTONOMOUS COLLEGE, DURG (C.G.)

DEPARTMENT OF COMPUTER SCIENCE

SYLLABUS FOR AY 2022-23

BCA – I SEMESTER

COURSE CODE: BCA-107(L+P)

SEC1: Principles of Object-Oriented Programming

Max Mark: 25+25(L+P)

Min Marks: (10+10)

Note: The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice.

Only Simple calculators allowed not scientific calculator.

Course Objectives	Course Outcomes
this course aim to introduce the concept of object-oriented programming, and will be able to implement the various features of OOPs. He /she will efficiently write programs to solve real world problems using Object Oriented concept for problem solving	On successful completion of the course, the student will be able to understand and implement Object Oriented concept.

Object Oriented Methodology: Introduction, Advantages and Disadvantages of Procedure Oriented Languages, what is Object Oriented? What is Object Oriented Development? Object Oriented Themes, Benefits and Application of OOPS.

Principles of OOPS: OOPS Paradigm, Basic Concepts of OOPS: Objects, Classes, Data Abstraction and Data Encapsulation, Inheritance, Types of Inheritance, Polymorphism, Types of Polymorphism, Static Binding and Dynamic Binding, Message Passing

Text Books:

S. No. Title Authors Publisher

1) Programming with JAVA E. Balagurusamy TMH



GOVT. V.Y.T. P.G. AUTONOMOUS COLLEGE, DURG (C.G.)
SYLLABUS FOR: (2022-23)
BCA – I SEMESTER
SUBJECT CODE: BCA-110

Bridge course for BCA (only for non-mathematics students)

Max Marks: 50

Min Marks:20

Note:1. Fundamental of the topics are to be draft to enable the student to understand the topics. The Question paper setter is advised to prepare unit-wise question with the provision of internal choice. Only simple calculator is allowed not scientific.

2. Bridge course is compulsory for the non-mathematical student who have passed 12th without maths as on subject. They have to qualify/pass this bridge course exam once in 3 year of BCA

UNIT I : ALGEBRA

Partial Fraction, Arithmetic progression & Geometric Progression, Determinates and matrices,

UNIT II: PERMUTATION, COMBINATION AND BINOMIAL

Method of induction, Binomial Theorem for positive integral index and any index (without proof), Exponential and logarithmic series.

UNIT III: TRIGONOMETRY

Measurement of angles, Trigonometric ratios, simple formula, compound angles, Trigonometric ratios of multiple and sub multiple angles, Height and Distance, Inverse function.

UNIT IV: GEOMETRY

Locus, Cartesian coordinate system, Distance Formula, Section Formula, Slope of a straight-line various forms, angle between two lines, pair of straight lines, parabola, ellipse and hyperbola.

UNIT V: STATISTICS


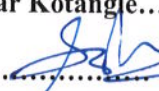
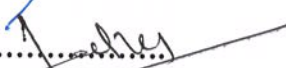
Frequency Distribution, measures of central tendency. Mean, median, mode, G.M. H.M. Inter quartile range, mean deviation, standard deviation.



BOOK RECOMMENDED:

MATHEMATICS (CLASS 11TH AND 12TH) – R.D.SHARMA.

YUGBODH MATHEMATICS – (CLASS 11TH AND 12TH)

Name and Signatures

<p>V.C. Nominee</p> <p>Subject Expert</p> <p>Subject Expert.....</p> <p>Alumni(member).....</p> <p>Prof. from other Dept. of Sc. Faculty </p> <p>Specialist from Industry</p>	<p>Departmental members</p> <p>1. HOD- Mr. Durgesh Kumar Kotangle.....</p> <p>2. Mr. Dileep Kumar Sahu..... </p> <p>3. Mrs. Latika Tamrakar..... </p>
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DIRECTIVES FOR STUDENTS, FACULTY AND EXAMINERS

1. There shall be three sections (Section A, B, and C) in each theory paper.
2. Section A shall contain very short answer type questions (One or two line answer) or objective type questions (fill in the blank). **(Not multiple-choice questions)**
3. Section B shall contain short answer type questions with the limit of 150 words
4. Section C shall contain long answer/ descriptive type questions. The students are required to answer precisely and the answer should not exceed the limit of 350 words.
5. The students are required to study the content mentioned in the curriculum exhaustively.

EVALUATION PATTERN OF DSC, GEC AND AEC

- **Theory 80 marks + Internal and Assignment – 20 Marks**
- **Total – 100 Marks**

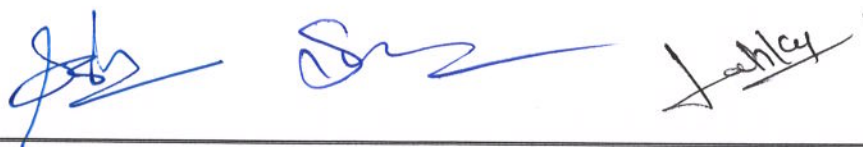
Question Type	MAX MARKS 80 (Marks X No. of Q.)
A (Very short Ans.)	1X10 = 10
B (Short Ans.)	4X5 = 20
C (Long Ans.)	10X5 =50

- **Theory- 60 marks + Internal and Assignment – 15 Marks**
- **Practical- 25 marks**
- Total – 100 Marks**

Question Type	MAX MARKS 60 (Marks X No. of Q.)
A (Very short Ans.)	1X10 = 10
B (Short Ans.)	4X5 = 20
C (Long Ans.)	6X5 =30

EVALUATION PATTERN FOR SEC and VAC

- **Theory 25 marks**
- **Practical 25 marks**
- **Total – 50 Marks**



Corrigendum for UG Classes

1. Section –A (very short answer question)

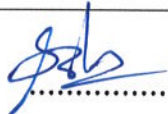


There shall be 10 objective type questions (No multiple choice). All questions are compulsory; at least one from each unit.

2. Section B, Section C

There shall be 10 questions, two questions from each unit.

The candidate has to attempt one question from each unit.

Name and Signatures

V.C. Nominee	Departmental members
Subject Expert	3. HOD - Mr. Dileep Kumar Sahu 
Subject Expert.....	4. Mrs. Latika Tamrakar 
Alumni(member).....	
Prof. from other Dept. of Sc. Faculty 	
Specialist from Industry	

GOVT. V.Y.T. PG. AUTONOMOUS COLLEGE DURG
DEPARTMENT OF COMPUTER SCIENCE
SCHEME OF SYLLABUS FOR AY 2022-23

BCA -II SEMESTER

Course Code	Course Name	Theory Marks (ESE)		Internal Marks (TA)		Practical Marks		Total Marks		Teaching Load per Week			Credits
		Max (A)	Min (B)	Max (C)	Min (D)	Max (E)	Min (F)	Max	Min	L	T	P	
BCA 201(L)	Programming in C++	60	24	15	6			75	30	5	1		3
BCA 202(L)	Web Technology and Application	60	24	15	6			75	30	5	1		3
BCA 203(L)	Computer Fundamentals	80	32	15	8			100	40	5	1		4
BCA 204(L)	AEC2- Environmental Studies and Human Rights	25	10			25	10	50	20	5	1		2
BCA 205(P)	LAB II: Programming in C++ Lab					25	10	25	10	-	-	1X2	1
BCA 206(P)	LAB III: Web Technology Lab					25	10	25	10	-	-	1X2	1
BCA 207 (L+P)	SEC 2 – Programming in PHP	25	10			25	10	50	20	1		1x2	2
BCA 208(L)	GEC2- Business Organization and Management	80	32	15	8			100	40	5	1		4
BCA 209 (L+P)	VAC2-SPORTS	25	10			25	10	50	20	1		1x2	2
TOTAL MARKS								550	220				22



GOVT. V.Y.T. P.G. AUTONOMOUS COLLEGE, DURG (C.G.)
DEPARTMENT OF COMPUTER SCIENCE
SYLLABUS FOR AY 2022-23
BCA – II SEMESTER
COURSE CODE: BCA-201(L)
Programming in “C++”

Max Mark: 60

Min Marks: 24

Note: The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice. Only Simple calculators allowed not scientific calculator.

Course Objectives	Course Outcomes
This course intends to provide in-depth knowledge of Object oriented programming using C++.	<p>On successful completion of the course, the student will be able to:</p> <p>CO1: Discuss the concepts of programming designing and get hands on with selection and iterative building blocks for coding</p> <p>CO2: Describe modular programming approach and learn user define derived data types</p> <p>CO3: Discuss object oriented programming concepts and features of OOPs by implementing using C++</p> <p>CO4: Describe pointers and their usage using C++ along with handling exception</p> <p>CO5: Describe Inheritance in C++ and basic programming in Java.</p>

UNIT-I: Language Fundamental

Overview of OOP: The Object-Oriented paradigm, Basic concepts of OOP, Benefits of OOP, Object oriented languages. Application of OPP.

Overview of C++: History of C++, **Data types:** Built-in data types, User-defined data types, derived data types, **Constant and Variables:** symbolic constants, Dynamic initialization of variable, Reference variable Operators in C++, **Control Structures:** if-else, while, do- while, for break, continue, switch, and go-to statement.

UNIT-II: Structure & Function

Structure: A Simple structure, defining a structure variable, Accessing structure's member, Enumeration data type.

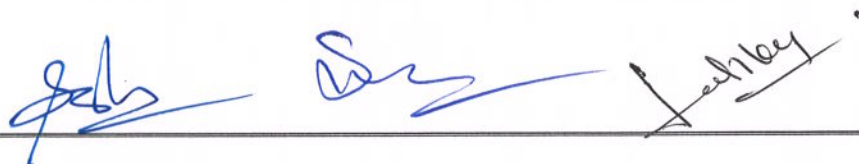
Function: Function Declaration, Calling Function, Function Definition, **passing Arguments to function,** passing Constant, passing Value, Reference Argument, Structure as argument, Default Argument.

Returning values from function: return statement, Returning structure variable, Return by reference. Overloaded Function, Inline Function.

UNIT-III: Object Classes and Inheritance

Object and class, Defining the class and its member, Making an outside function inline, nesting of member function, array as class member, structure and classes.

Memory allocation: memory allocation for objects, new and delete operator, static data member, static member function, object as function as function argument. **Constructor & Destructor:** Null and default constructor, parameterized constructor, with default argument, copy constructor, class destructors.



UNIT-IV: Polymorphism, Templates, Pointer & Exception Handling

Dynamic polymorphism: Function overloading and function Overriding.

Static polymorphism: Operator keyword, overloading unary operators (++ (pre increment and post increment), --) using operator function, overloading binary operators (+, -, =, >=, <=, +=, <, >, II) Friend function, Friend class, overloading, binary operators using friend function.

Pointers: Introduction, & and * operator, pointer to object, this pointer, pointer to derived class. introduction to templates, function and class templates, exception handling.

UNIT-V: Inheritance in C++ and Overview of Java

Inheritance: Introduction to inheritance, Types of inheritance, function overriding, Constructor in Derived class, **Access specifiers:** public, private, protected. Virtual function, pure virtual function, abstract class and abstract function.

Introduction to Java, Features of Java, data types, control structures, arrays, methods and classes,

RECOMMENDED BOOKS:

1. **Object -Oriented programming with C++:** E. Balagurusamy, The McGraw-Hill
2. **Let Us C++:** Yesvant Kanetkar, BPB Publications
3. **The C++ programming Language:** Bjarne, Stroustrup, Addison Wasley.
4. **Object Oriented programming in C++:** Robert Lafore, Galgotia publications.
5. JAVA PRIMER - BY E. BALAGURUSWAMI

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GOVT. V.Y.T. P.G. AUTONOMOUS COLLEGE, DURG (C.G.)
DEPARTMENT OF COMPUTER SCIENCE
SESSION - 2022-23
BCA –II SEMESTER
COURSE CODE: BCA – 202(L)
WEB TECHNOLOGY AND APPLICATION

Max Mark: 60

Min Marks: 24

NOTE: - The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice.

Course Objective:	Course Outcomes
The main objective of the course is present the basic web technology concepts that are required for developing web applications.	On successful completion of the course, the student will be able to: <ol style="list-style-type: none">1. Understand the basics of Internet and its protocol.2. Analyze a web page and identify its elements and attributes.3. Create web pages using HTML and Cascading Styles sheets4. Understand the concept of inseting image in web page and hyper link.5. Build dynamic web pages using JavaScript (client-side programming), CSS and XML.

UNIT-I Basics of Internet

History, Evolution, Internet applications, Intranet, WWW, Emergence of Web, Web Site, client, Web Servers, Web Browser, web standards, Web concept, Search Engine, URL, DNS, Internet Connection, Internet Service Provider, Web Design Strategies, OSI and TCP/IP model, various protocols like HTTP, FTP, SMTP, TELNET. Internet services: Email concept, Sending and receiving secure Email, Voice and video Conferencing, web Based chat services, Chat Services, Internet Messaging, Internet Relay Chat, News Group.

UNIT-II Basics of HTML

Introduction, Html version, HTML tags, what is HTML?, HTML editor, explanation of the structure of the homepage, element in HTML documents, HTML tags, basic HTML tags, comments tag in HTML, viewing the source of the web page, how to download the web page source?, HTML document structure: head section, illustration of document structure. <BASE> element, <ISINDEX> element, <LINK> element, META, <TITLE> element, <SCRIPT> element, practical applications, HTML document structure- body section:- body element and its attributes: Background; Background color, Text; Link; Active Link(ALINK); visited link(VLINK); Left margin; top margin; organization of elements in BODY of the document; Text Block Elements; Text Emphasis Elements.

UNIT-III HTML SPECIAL ELEMENTS

Creating headings on a web pages : Aligning the headings, creating list, Working with Links: Creating a Hyperlinks, Setting the Hyperlink Colors, Linking Different sections of A web page, Creating Paragraph, Working with Images, Using Images as Links, Working with Tables, Working with Frames : Creating a Frame, Creating Vertical and Horizontal Frames, Setting the Frame Border Thickness, Applying Hyperlink Targets to a Frame, Creating and HTML Form, Specifying the Action URL and Method to Send the Form, Using the HTML Controls.



UNIT – IV: IMAGE, INTERNAL AND EXTERNAL LINKING BETWEEN:

Insertion of image using the element IMG (Attributes: SRC (Source), WIDTH, HEIGHT, ALT(alternative), ALIGN), IMG(In – Line Images) Element and Attributes; Illustrations of IMG Alignment, Image as Hypertext Anchors, Internal and External Linking between web pages hypertext anchors, HREF in anchors, Links to a particular place in a document, NAME attribute in anchor, Targeting NAME, TITLE attribute, Practical IT Application Designing web pages links with each other, Designing Frames in HTML. Practical Examples.

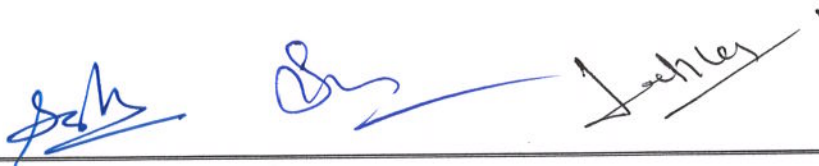
UNIT-V DHTML and Java Script

DHTML: Introduction, Cascading style sheet (CSS), Inline Style sheet, External Style Sheet, Internal Style Sheets, DHTML document object model, Event handling.

Java Script: Introduction, Language elements, Variables, operators, control statement Array and function in Java Script, Objects of Java script, Client-Side and server-side Java script, Benefits of using Java Script, Embedding JavaScript into HTML Page, Handling Events, overview of VB Script. XHTML, CSS, Extensible Markup Language (XML), Extensible Style sheet Language (XSL),.

TEXT BOOKS :

1. Web Technology, A developer's Perspective, N.P. Gopalan and J. Akilandeswari, PHI publication.
2. Web Technologies : HTML, JAVASCRIPT, PHP, JAVA, JSP, ASP, NET, XML and Ajax, Black Book by Dream Tech Press.
3. Internet : The Complete Reference Millennium Edition Margaret Levine Young, Doug Muder.
4. The Complete Reference : HTML and CSS, Thomas A, Powell, Mc Graw Hill.
5. Java Script The Complete Reference, Thomas Powell, Fritz Schenider, McGrawHill, Third Edition
6. Introduction To HTML, Kamlesh N.Agrawal, O.p, Vyas, P.A. Agrawal.
7. Web Technology and Design, Xavier, C, New Age International.
8. HTML, DHTML, Java Script, Perl and CGI, Ivan Bayros, BPB Publication.
9. Internet and Web Design, Ramesh Bangia, New Age International.
10. Business on the net, Kamlesh N. Agarawala, Amit Lal & Deeksha Agarawal, Macmillan India Ltd.



GOVT. V.Y.T. P.G. AUTONOMOUS COLLEGE, DURG (C.G.)
DEPARTMENT OF COMPUTER SCIENCE
SESSION - 2022-23
BCA –II SEMESTER
COURSE CODE: BCA – 203 (L)
COMPUTER FUNDAMENTALS

Max Marks:80

Min. Marks:32

NOTE: - The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice.

Course Objective:	Course Outcomes
Introduce the fundamentals of computing devices and reinforce computer vocabulary, particularly with respect to personal use of computer hardware and software, various memory devices and Operating System.	<p>On successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 1. Understand the history and various generations of computer, characteristics of computer and its types, number system 2. Identify computer hardware and peripheral devices. 3. Understand the Memory and Storage Devices. 4. Be familiar with various types of software and software applications 5. Understand Memory and file management.

UNIT-I INTRODUCTION TO COMPUTERS

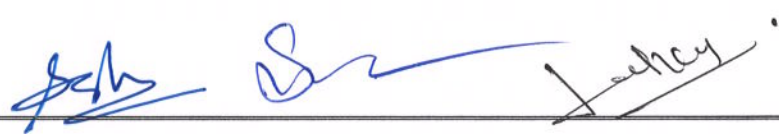
Computer System:-Characteristics and Capabilities, **Computer Hardware and Software:**Block Diagram of a Computer, **Different Data Processing:** Data, Data Processing System, Storing Data, Processing Data, **Types of Computers :**Analog, Digital, Hybrid, General and Special Purpose Computers, **Generations of Computer,** Computer Systems –Micros, Minis & Main-frames, Limitations of Micro Computer. **Number Systems:-**Decimal Number System, Binary Number System, Octal and Hexadecimal Number System, 1's and 2's Complement. **Codes:** – ASCII, EBCDI Codes, Gray Code & BCD.

UNIT – II COMPUTER PERIPHERALS:

Introduction to Input Devices: Categorizing Input Hardware, Keyboard, Direct Entry – Card Readers, Scanning Devices – O.M.R., Character Readers, Thumb Scanner, MICR, Smart Cards, Voice Input Devices, Pointing Devices – Mouse, Light Pen, Touch Screen. **Computer Output:** Output Fundamentals, Hard copy Output Devices, Impact Printers, Non-Impact Printers, Plotters, Computer output Microfilm/Microfiche (COM) systems, Softcopy Output Devices, Cathode Ray Tube, Flat Screen Technologies, Projectors, Speakers.

UNIT – III BASIC COMPONENTS AND STORAGE:

Central Processing Unit: The Micro-processor, Control Unit, A.L.U., Registers, Buses, Main Memory, Main Memory(RAM) for microcomputers, Read Only Memory (ROM), **Storage Devices:** Storage Fundamentals, Primary and Secondary Storage, Data Storage and Retrieval Methods – Sequential, Direct & Indexed Sequential, Tape Storage and Retrieval Methods, Tape storage Devices, characteristics and limitations, Direct access Storage and Microcomputers - Hard Disks, Disk Cartridges, Direct Access Storage Devices for large Computer systems, Mass storage systems and Optical Disks, CD ROM.



UNIT – IV COMPUTER SOFTWARE AND LANGUAGES:

System Software: System software Vs. Application Software, Types of System Software, Introduction and Types of Operating Systems, Boot Loader, Diagnostic Programs, Operating Systems Executive, BIOS, Utility Programs, **Application Software:** Microcomputer Software, Interacting with the System, Trends in PC software, Types of Application Software, Difference between Program and Packages. **Computer Languages:** Definition, Generations of Computer Languages, Types of Languages, **Language Processors:** Assembler, Compiler, Interpreter. Linker and Loader, Programming Constructs, Algorithm and Flow chart.

UNIT – V INTRODUCTION TO MS-DOS AND WINDOWS:

Introduction to DOS: History and Versions of DOS, *Fundamentals of DOS:* Physical Structure of the Disk, Compatibility of drives, Disks & DOS versions, Preparing Disks for use, Device Names. *Getting Started with DOS:* Booting Process (DOS, Windows, UNIX), System Files and Command.com, Internal DOS Files and Directories, Elementary External DOS Commands, Creating a Batch file, Additional.

Microsoft Windows: Operating System- Definition & functions, basics of Windows, Basic Components of Windows, Icons, Types of Icons, Taskbar, activating Windows, Using Desktop, Title Bar, running applications, Exploring computer, Managing Files and Folders, copying and moving files and folders. Control panel- Display properties, adding and removing software and hardware, setting date and time, screen saver and appearance. Using windows accessories, Overview of Unix/Linux.

BOOKS RECOMMENDED:

1. INTRODUCTION TO INFORMATION TECHNOLOGY : V. RAJARAMAN, PHI, SECOND EDITION
2. COMPUTER FUNDAMENTALS: P.K SINHA BPB PUBLICATIONS, SIXTH EDITION
3. FUNDAMENTAL OF INFORMATION TECHNOLOGY: CHETANSHRIVASTAVA_KALYANI PUBLISHERS
- 4 . COMPUTER TODAY:- SURESH K BASANDRA, GALGOTIA PUBLICATION.

gsh *Dr* *Shrey*

GOVT. V.Y.T. P.G. AUTONOMOUS COLLEGE, DURG (C.G.)

DEPARTMENT OF COMPUTER SCIENCE

SESSION - 2022-23

BCA- II SEMESTER

COURSE CODE: BCA-204 (L+P)

ENVIRONMENTAL STUDIES AND HUMAN RIGHTS

Max Marks:50

Min. Marks:20

Course Objectives	Course Outcomes
This course intends to provide in-depth knowledge of Object oriented programming using C++.	On successful completion of the course, the student will be able to: CO1: Discuss the concepts of programming designing and get hands on with selection and iterative building blocks for coding CO2: Describe modular programming approach and learn user define derived data types CO3: Discuss object-oriented programming concepts and features of OOPs by implementing using C++ CO4: Describe pointers and their usage using C++ along with handling exception CO5: Describe Inheritance in C++ and basic programming in Java.

इन्वार्गेटल साईंसेस के पाठ्यक्रम को स्नातक स्तर भाग-एक की कक्षाओं में विश्वविद्यालय अनुदान आयोग के निर्देशानुसार अनिवार्य रूप से शिक्षा सत्र 2003-2004 (परीक्षा 2004) से प्रभावशील किया गया है। स्वशासी महाविद्यालयों द्वारा भी अनिवार्य रूप से अंगीकृत किया जाएगा।

भाग 1, 2 एवं 3 में से किसी भी वर्ष में पर्यावरण प्रश्न-पत्र उत्तीर्ण करना अनिवार्य है। सभी उपरि प्रदात योग्य होगी।

पाठ्यक्रम 50 अंकों का होगा, जिसमें से 25 अंक सैद्धांतिक प्रश्नों पर होंगे एवं 25 अंक क्षेत्रीय कार्य (Field Work) पर्यावरण पर होंगे।

सैद्धांतिक प्रश्नों पर अंक - 25 (सभी प्रश्न इकाई आधार पर रहेंगे जिसमें विकल्प रहेगा)

(अ) लघु प्रश्नोंत्तर - 10 अंक

(ब) निबंधात्मक - 15 अंक

Field Work - 25 अंकों का मूल्यांकन आंतरिक मूल्यांकन पद्धति से कर विश्वविद्यालय को प्रेषित किया जावेगा। अभिलेखों की प्रायोगिक उत्तर पुस्तिकाओं के समान संबंधित महाविद्यालयों द्वारा सुरक्षित रखेंगे।

उपरोक्त पाठ्यक्रम से संबंधित परीक्षा का आयोजन वार्षिक परीक्षा के साथ किया जाएगा।

पर्यावरण विज्ञान विषय अनिवार्य विषय है, जिसमें अनुत्तीर्ण होने पर स्नातक स्तर भाग-एक के छात्र/छात्राओं को एक अन्य विषय के साथ पूरक की पत्रता होगी। पर्यावरण विज्ञान के



सैद्धांतिक एवं फील्ड वर्क के संयुक्त रूप से 33% (तीस प्रतिशत) अंक उत्तीर्ण होने के लिए अनिवार्य होंगे।

स्नातक स्तर भाग-एक के समस्त नियमित/भूतपूर्व/अमहाविद्यालयीन छात्र/छात्राओं को अपना फील्ड वर्क सैद्धांतिक परीक्षा की समाप्ति के पश्चात् 10 (दस) दिनों के भीतर संबंधित महाविद्यालय/परीक्षा केन्द्र में जमा करेंगे एवं महाविद्यालय के प्राचार्य/केन्द्र अधीक्षक, परीक्षकों की नियुक्ति के लिए अधिकृत रहेंगे तथा फील्ड वर्क जमा होने के सात दिनों के भीतर प्राप्त अंक विश्वविद्यालय को भेजेंगे।

UNIT-I: THE MULTI DISCIPLINARY NATURE OF ENVIRONMENTAL STUDIES

Definition, Scope and Importance of Natural Resources:

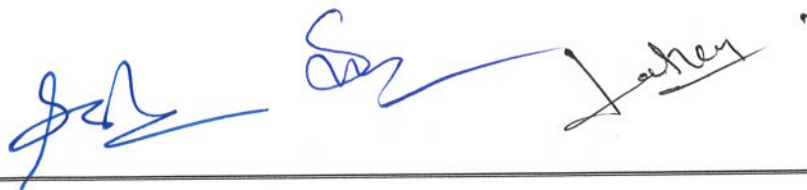
Renewable and Nonrenewable Resources

- (a) Forest resources: Use and over-exploitation, deforestation, Timber extraction, mining, dams and their effects on forests and tribal people and relevant forest Act.
- (b) Water resources: Use and over-utilization of surface and ground water, floods drought, conflicts over water, dams benefits and problems and relevant Act.
- (c) Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources.
- (d) food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity.
- (e) Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources.
- (f) Land resources: Land as a resource, land degradation, man induced landslides soil erosion and desertification.

UNIT-II ECOSYSTEM

(a) Concept, Structure and Function of and ecosystem

- Producers, consumers and decomposers.
- Energy flow in the ecosystem



Ecological succession

- Food chains, food webs and ecological pyramids.
- Introduction, Types, Characteristics Features, Structure and Function of Forest, Grass, Desert and Aquatic Ecosystem.

(b) Biodiversity and its Conservation

Introduction - Definition: genetic, species and ecosystem diversity

Bio-geographical classification of India.

- Value of biodiversity: Consumptive use, Productive use, social ethics, aesthetic and option values.
- Biodiversity at global, National and local levels.
- India as mega-diversity nation.
- Hot spots of diversity.
- Threats to biodiversity: habitat loss, poaching of wildlife, man-wild life conflict.
- Endangered and endemic species of India.
- Conservation of biodiversity: In situ and Ex-situ conservation of biodiversity.

UNIT- III

(a) Causes, effect and control measures of

Air water, soil, marine, noise, nuclear pollution and Human population.

- Solid waste management: Causes, effects and control measures of urban and industrial wastes.
- Role of an individual in prevention of pollution.

Disaster Management: floods, earthquake cyclone and landslides.

(b) Environmental Management

- From Unsustainable to sustainable development.
- Urban problems related to energy.



- Water conservation, rain water harvesting, watershed management.
- Resettlement and rehabilitation of people, its problems and concerns.
- Environmental ethics: Issues and possible solutions.
- Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust.
- Wasteland reclamation
- Environment protection Act: Issues involved in enforcement of environmental legislation.
- Role of Information Technology in Environment and Human Health.

UNIT-IV

General background and historical perspective- Historical development and concept of Human Rights, Meaning and definition of Human Rights, Kind and Classification of Human Rights.

Protection of Human Rights under the UNO Charter, protection of Human Rights under the Universal Declaration of Human Rights, 1948.

Convention on the Elimination of all forms of Discrimination against women.

Convention on the Rights of the Child, 1989.

UNIT-V

Impact of Human Rights norms in India, Human Rights under the Constitution of India, Fundamental Rights under the Constitution of India, Directive Principles of State policy under the Constitution of India, Enforcement of Human Rights in India.

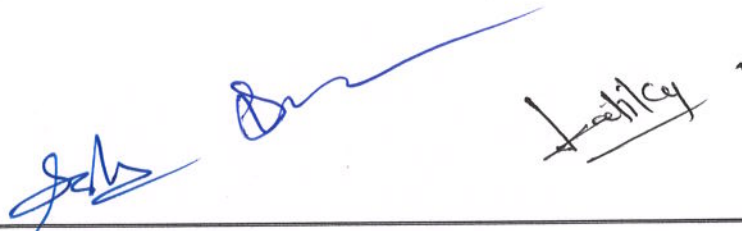
Protection of Human Rights under the Human Rights Act, 1993- National Human Rights Commission, State Human Rights Commission and Human Rights court in India.

Fundamental Duties under the Constitution of India.

Reference/ Books Recommended

1. SK Kapoor- Human rights under International Law and Indian Law.
2. HO Agarwal- Internation Law and Human Rights
3. एस.के. कपूर – मानव अधिकार
4. जे.एन. पान्डेय – भारत का संविधान
5. J.N.Pandey - Constitutional Law of India
6. Agarwal K.C. 2001 Environmental Biology, Nidi pub. Ltd. Bikaner

8. Bharucha Erach, the Biodiversity of India, Mapin pub. Ltd. Ahmedabad 380013, India, Email: mapin@icenet.net(R)
9. Bruinner R.C. i 9g9, Hazardous Waste Incineranon. McGraw Hill Inc.480p
10. Clark R.S. Marine pollution, Clanderson press Oxford (TB)
11. Ctiningham, W.P.Cooper. T.H.Gorhani, E & Hepworth. M.T,200
12. Dr. A.K.-Environmental Chemistry. **Wiley** Eastern Ltd.
13. Dowri to Earth, Center for Science and Environment (R)
14. Gloick, H.P. 1993 Water in crisis. pacific institute for studies in Deve. Environment & Security. Stockholm Eng. Institute. Oxford University, Press. m 473p.
15. Hawkins R.E. Enécyclopedia of Indian Natural History, Bombay Natural History Society, Mumbai (R)
16. Heywood, V.H. & Watson, T.T.1995 Global Biodiversity Assessment, Cambridge Univ. Press 1 140p
17. Jadhav H. & Bhosale, V.H. 1995 Environmental Protection and Law. Himalaya pub. House, Delhi 284p
18. Mckinney M.L.& School R.M.1996, environmental Science systems & solutions, web enhanced edition, 639p
19. Mhadkar A.K. Matter Hazardous, Techno-Science publication(TB)
20. Miller T.G.Jr. Environment Science, Wadsworth publication co. (TB)
21. Odum E.P.1971, Fundamentals of Ecology, W.B. Saunders Co.USA,574p
22. Rao M.N. & Datta, A.K. 1987, Waste water treatment. Oxford & IBH pub.co.pvt. Ltd 345p
23. Sharma B.K. 2001, Environmental chemistry, Goel pub. House, Meerut
24. Survey of the Environment, The Hidu(M)
25. Tovmsend C. Harper J. And Michael Begon, Essentials of Ecology, Blackwell Science(TB)
26. Trivedi R.K.Handbook of Environment Laws, Rules, Guidelines, Compliances and Standards, Vol land II, Environment Media(R)
27. Trivedi R.K. and P.K. Goel, Introduction to air pollution, Techno-Science publication
28. Wanger K.D.1998, Environmental Management. W.B. Saunders Co. Philadelphia, USA 499Jf



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GOVT. V.Y.T. P.G. AUTONOMOUS COLLEGE, DURG (C.G.)
DEPARTMENT OF COMPUTER SCIENCE
SESSION - 2022-23
BCA – II SEMESTER
COURSE CODE: BCA-205(P)
LAB – III: PROGRAMMING IN C++ LAB

Max Mark: 25

Min Marks: 10

Course Objectives	Course Outcomes
This course intends to provide in-depth programming knowledge of Object-oriented programming using C++ and project development.	<p>On successful completion of the course, the student will be able to</p> <p>CO1: Write program with all type of variables and statements of C/C++.</p> <p>CO2: Discuss modular approach by working with functions and derive data types.</p> <p>CO3: Discuss object-oriented programming concepts</p> <p>CO4: Know different features of OOPs and implementing using C++</p> <p>CO5: Handle interrupts and working with files.</p>

1. **Scheme of Examination:-Practical examination** will be two programs and a project demonstration. It will be of 3 hours duration. All programs should be with flow chart and algorithms. The distribution of practical marks will be as follows:

Programme 1 - 5

Programme 2 - 5

Programme 3 - 5

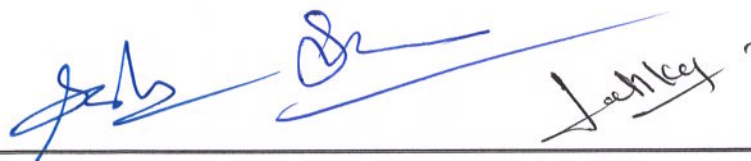
Viva- Voice - 5

[Practical Copy

+ Internal Record] - 5

Total - 25

2. In every program there should be comment for each coded line or block of code.
3. Practical file should contain printed programs with name of author, date, path of program, unit no. and printed output.
4. All the following programs or a similar type of programs should be prepared.



List of Practical

LOOPS, DECISIONS, NESTED METHOD, MEMBER FUNCTION DEFINED OUTSIDE CLASS BODY:

1. Write program to generate following pattern

a)	A B C D E F G	b)	1
	A B C E F G		1 2
	A B F G		1 2 3
	A G		1 2 3 4

c)	*	d)	1
	* *		1 2 1
	* * *		1 3 3 1
			1 4 6 4 1

- Write member functions which when called asks pattern type; if user enters 11 then a member function is called which generates first pattern using for loop. If user enters 12 then a member function is called which generates first pattern using while loop. If user enters 13 then a member function is called which generates first pattern using do-while loop. If user enters 21 then a member function is called which generates second pattern using for loop and so on.
- Write program to display number 1 to 10 in octal, decimal and hexadecimal system.
- Write program to display number from one number system to another number system. The program must ask for the number system in which you will input integer value then program must ask the number system in which you will want, output of the input number after that you have to input the number in specified number system and program will give the output according to number system for output you mentioned earlier.

Array

- Write a program using function to add, subtract and multiply two matrices of order 3×3 , You have to create one function for addition, which accepts three array arguments. First two array arguments are matrices to add and third matrix is destination where the resultant of addition of first two matrix's is stored. In similar way create functions for matrix subtraction and multiplication.
- Create a single program to perform following tasks without using library functions :
 - To reverse the string accepted as argument.
 - To count the number of characters in string passed as argument in form of character array.
 - To copy the one string to other string; passed as arguments in form of source character array and destination character array without using library function.
 - To count no. of vowels, consonants in each word of a sentence passed as argument in form of character array.

Class, Object, Array of object, Object Using Array

- Create a class Student having data members to store roll number, name of student, name of three subjects, max marks, min marks, obtained marks. Declare an object of class student, Provide facilities to input data in data members and display result of student.
- Create a class Student having data members to store roll number, name of student, name of three subjects, max marks, min marks, obtained marks. Declare array of object to hold data of 3 students. Provide



facilities to display result of all students. Provide also facility to display result of specific student whose roll number is given.

9. Create a class Sarray having an array of integers having 5 elements as data member provide following facilities :

- a) Constructor to get number in array elements
- b) Sort the elements
- c) Find largest element
- d) Search for presence of particular value in array element.

Static member function

10. Create a class Simple with static member functions for following tasks:

- a) To find factorial by recursive member function.
- b) To check whether a no. is prime or not.
- c) To generate Fibonacci series up to requested terms.

Object as argument to function, function returning object

11. Write program-using class having class name Darray. Darray has pointer to Pointer to integer as data member to implement double dimension dynamic array and provide following facilities :

- a) Constructor to input values in array elements.
- b) Input member function to get input in array element
- c) Output member function to print element value
- d) Add member function to perform matrix addition using objects.
- e) Subtract member function to perform matrix subtraction using objects
- f) Multiply member function to perform matrix multiplication using objects

12. Write program to create class complex having data members to store real and imaginary part Provide following facilities :

- a) Add to complex no,using object.
- b) Subtract two complexes no,using object.
- b) Multiply two complexes no, using objects
- d) Divide two complex no. using objects.

Friend Function

13. Create class polar having data member radius and angle. It contains member function for taking input in data members and member function for displaying value of data members. Class polar contains declaration of friend function add which accept two object of class polar and returns object of class polar after addition. Test the class using main function and objects of class polar.

14. Write program to create class having data member a feet and inch (A single object will store distance in form such as 5 feet 3 inch). It contains member functions for taking input in data members and member function for displaying value of data members. Class Distance contains declaration of friend function add which accept two object of class Distance and return object of class Distance after addition. Class Distance contains declaration of another friend function. Subtract that accept two object of class Distance and returns object of class Distance after subtraction. Test the class using main function and object of class distance.



15. Write a program to create class Mother having data member to store salary of Mother, create another class Father having data member to store salary of Father. Write a friend function, which accept objects of class Mother, and Father and prints Sum of Salary of Mother and Father object.

Friend Class

16. Write a program to create class Mother having data member to store salary of Mother, create another class Father having data member to store salary of Father. Declare class Father to be friend class of Mother. Write a member function in Father, which accept object of class Mother and prints. Sum of Salary of Mother and Father Object. Create member function in each class to get input in data member and to display the value of data member.

Static Data Member

17. Create a class Counter having a static data member, which keeps track of no. of objects created of type Counter. ONE static member function must be created to increase value of static data member as the object is created. One static member function must be created to decrease value of static data member as the object is destroyed. One static member function must be created to display the current value of static data member. Use main function to test the class Counter.

STRUCTURE AND CLASS

18. Define structure student. Structure has data members for storing name, rollno, name of three subjects and marks. Write member function to store and print data.

COPY CONSTRUCTOR, CONSTRUCTOR OVERLOADING, THIS POINTER, CONSTRUCTOR WITH DEFAULT ARGUMENT.

19. Write program to create a class polar which has data member radius and angle, define overloaded constructor to initialize object and copy constructor to initialize one object by another existing object keep name of parameter of parameterized constructor same as data members. Test function of the program in main function.

20. Write program to create a class polar which has data member radius and angle, use constructor which default arguments to avoid constructor overloading and copy constructor to initialize one object by another existing object keep name of parameter of parameterized constructor same as data members. Test functioning of the program in main function.

FUNCTION OVERLOADED, REFERENCE VARIABLE, PARAMETER PASSING BY ADDRESS, STATIC FUNCTION

21. Write a class having name Calculate that uses static overloaded function to calculate area of circle, area of rectangle and area of triangle.

22. Write a class array. Sort that uses static overloaded function to sort an array of floats, an array of integers.

23. Write a program using class, which uses static overloaded function to swap two integers, two floats methods use reference variable.

24. Write a program using class, which use static overloaded function swap two integers, two floats methods use parameter passing by address.

STRING, POINTER, AND OPERATOR OVERLOADING

25. Create class String having pointer to character as data member and Provide following Facilities :

- a) Constructor for initialization and memory allocation.
- b) Destructor for memory release.
- c) Overloaded operators + to add two string object
- d) Overloaded operators = to assign one string object to other string object.



- e) Overloaded operators == to compare whether the two string objects are equal or not
- f) Overloaded operator < to compare whether first-string object is less than second-string object.
- g) Overloaded operator > to compare whether first-string object is greater than second-string object or not.
- h) Overloaded operator <= to compare whether first string object is less than or equal to second string object or not
- i) Overloaded operator >= to compare whether first string object is greater than or equal to second string object
- j) Overloaded operator != to compare whether first string object is not equal to second string object or not.
- k) Overloaded insertion and extraction operators for input in data member and display out put of data members.

26. Create a class Matrix having data member double dimension array of floats of size 3×3. Provide following facilities :
- a) Overloaded extraction operator for data input.
 - b) Overloaded insertion operator for data output.
 - c) Overloaded operator + for adding two matrix using objects.
 - d) Overloaded operator – for subtracting two using matrix objects.
 - e) Overloaded operator * for multiplying two using matrix objects.

OPERTOR OVERLODADING WITH FRIEND FUNCTION

27. Create a class Polar having radius and angel as data members.

Provide following facilities;

- a) Overloaded insertion and extraction operators for data input and display.
 - b) Overloaded constructor for initialization of data members.
 - c) Overloaded operator + to add two polar co-ordinates using objects of class Polar .
28. Create class Degree-Celsius having a single data member to hold value of temperature in degree Celsius. Provide following facilities :
- a) Overloaded operator ++ which will increase value of data member by 1 (consider post fix and prefix operator overloading).
 - b) Overloaded operator -- which will decrease value of data member by 1 (consider post fix and prefix operator overloading).
 - c) Overloaded insertion and extraction operators for input in data member and display value of data member.
 - d)

OPERATOR OVERLOADING AND DATA TYPE CONVERSION

29. Create a class Polar that contains data member radius and angle.

Create another class Cartesian in the same program and provide followi9ng facilities :

- a) It should be possible to assign object of polar class to object of Cratesian class.
 - b) It should be possible to assign object of Cartesian class to object of polar class.
30. Create a class Fahrenheit that contains a data member to hold temperature in Fahrenheit. Create another class Celsius that contains a data member to hold temperature in Degree Celsius; in the same program and provide following facilities :
- a) It should be possible to assign object of Fahrenheit class to object of Celsius class.
 - b) It should be possible to assign object of Celsius class to object of Fahrenheit class.

- c) It should be possible to compare objects of class Fahrenheit and Celsius to find out which object contains higher temperature.

VOID POINTER, POINTER AND POINTER TO OBJECT

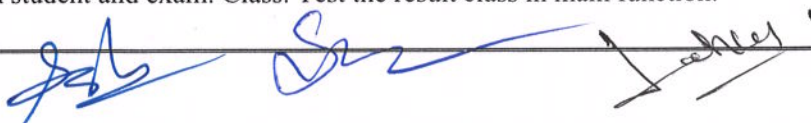
31. Create a program having pointer to void to store address of integer variable then print value of integer variable using pointer to void. Perform the same operation for float variable.
32. Write program to find biggest number among three numbers using pointer and function.
33. Write swapping program to demonstrate call by value, call by address and call by reference in a single program.
34. Write program to Create a class Employee having data members to store name of employee, employee id, salary. Provide member function for data input, output. Use Pointer to object to simulate array of object to store information of 3 employees and test the program in function main.

INLINE FUNCTION

35. Write a program using inline function to calculate area of circle
36. Write a program using inline function to find minimum of two functions. The inline function should take two arguments and should return the minimum value.

INHERITANCE

37. Create a class account that stores customer name, account number and type of account .From this derive the classes cur acct and sav acct to make them more specific to their requirements. Include necessary member functions in order to achieve the following tasks.
- a) Accept deposit from customer.
 - b) Display the balance
 - c) Computer and deposit interest.
 - d) permit withdrawal and update the balance.
 - e) Check for the minimum balance, impose penalty, necessary and update the balance.
38. Create a class circle with data member radius, provide member function to Calculate area. Derive a class sphere from class circle., provide member function to calculate volume. Derive class cylinder from class sphere with additional data member for height and member function to calculate volume.
39. Consider an example of declaring the examination result. Design three classes- student, exam and result. The student class has data member such as that representing roll number, name of student. Create the class exam. Which contains data members representing name of subject, minimum marks, maximum marks, obtained marks for three subjects. Derive class result from both student and exam. Class. Test the result class in main function.



VIRTUAL AND PURE VIRTUAL FUNCTION

40. Create a base class shape having two data members with two- member function getdata (pure virtual function) and print area (not pure virtual function) Derive classes triangle and rectangle from class shape and redefine member function print area in both classes triangle and rectangle and test the functioning of classes using pointer to base class objects and normal objects.

John Doe

GOVT. V.Y.T. P.G. AUTONOMOUS COLLEGE, DURG (C.G.)
DEPARTMENT OF COMPUTER SCIENCE
SESSION - 2022-23
BCA- II SEMESTER
COURSE CODE: BCA-206(P)
LAB – IV: WEB TECHNOLOGY LAB

Max Mark: 25

Min Marks: 10

Course Objectives	Course Outcomes
<p>This course intends to provide in-depth programming knowledge of the basics involved in publishing content on the World Wide Web.</p> <p>This will also expose students to the basic tools and applications used in Web publishing</p>	<p>On successful completion of the course, the student will be able to</p> <p>CO1: Write program and Design web pages using HTML</p> <p>CO2: Discuss modular approach by working with functions and derive data types.</p> <p>CO3: Format and validate web pages using CSS and Java Script</p> <p>CO4: Understand the basics of PHP.</p> <p>CO5: Design web sites and deploy it on web servers.</p>

1. **Scheme of Examination:-** Practical examination will be of 3 hours duration. The distribution of practical marks will be as follows:

Programme 1	-	5
Programme 2	-	5
Programme 3	-	5
Viva- Voice	-	5
[Practical Copy		
+ Internal Record]	-	5
Total	-	25

2 In every program there should be comment for each coded line or block of code.

3 Practical file should contain printed programs with name of author, date, path of program, unit no. and printed output.

4 All the following programs or a similar type of programs should be prepared.

List of Practical

HTML

Q.1. Write an HTML program to create the following table:

Class	Subject1	Subject2	Subject3
BCA I	Visual Basic	PC Software	Electronics
BCA II	C++	DBMS	English
BCA III	Java	Multimedia	CSA

[Handwritten signatures]

Q.2. Write an HTML program to create the following lists:

1. C
2. C++
3. Fortran
4. COBOL

Q.3. Write an HTML program to create the following lists:

1. Java
2. Visual Basic
3. BASIC
4. COBOL

Q.4. Write an HTML program to demonstrate hyperlinking between two web pages. Create a marquee and also insert an image in the page.

Q.5. Write an HTML program to create frames in HTML with 3 columns (Width = 30%, 30% , 40%).

Q.6. Write an HTML program to create a web page with a blue background and the following text:

New Delhi

New Delhi, the capital and the third largest city of India is a fusion of the ancient and the modern. The refrains of the Muslim dynasties with its architectural delights, give the majestic ambience of the bygone era.

Q.7. Write an HTML program to create the following table:

Admission

Course	OC	BC	MBC	SC/ST	TOTAL
Computer science	9	18	5	5	37
Commerce	14	25	6	5	50
Grand total					87

Q.8. Write an HTML program to create the following table:

Car Price List

Maruti		Tata		Ford	
Model	Price	Model	Price	Model	Price
Maruti 800	2 Lac	Sumo	2 Lac	Ikon	5 Lac
Omni	3 Lac	Scorpio	3 Lac	Gen	2 Lac

Q.9. Write an HTML program to create the following table:

Students Records

Name	Subject	Marks
Arun	Java	70
	C	80
Ashish	Java	75

[Handwritten signatures and scribbles]

	C	69
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Q.10. Create an HTML document and embed a flash movie in it.

Q.11. Write the HTML coding to display the following table. Also insert an image in the web page.

Subject	Max	Min	Obtain
Java	100	33	75
Multimedia	100	33	70
Operating System	100	33	68
C++	100	33	73

Q.12. Write the HTML coding to display the following table:

Name		Rahul	
Roll No.		101	
Subject	Max	Min	Obtain
Java	100	33	75
Multimedia	100	33	70

Q.13. Write an HTML program to create a form as the following:

Enter Name:

Enter Roll No.:

Enter Age:

Enter DOB:

Q.14. Write an HTML program to create a web page with an image as background and the following text:

New Delhi

New Delhi, the capital and the third largest city of India is a fusion of the ancient and the modern. The refrains of the Muslim dynasties with its architectural delights, give the majestic ambience of the bygone era.

On the other side New Delhi, the imperial city built by British, reflect the fast paced present. The most fascinating of all is the character of Delhi which varies from the 13th present century mausoleum of the Lodi kings to ultra modern glass skyscrapers.

Q.15. Create the following HTML form.



USERNAME :
 PASSWORD :

When user types characters in a password field, the browser displays asterisks or bullets instead of characters.

Done My Computer 100%

Q.16. Create the following HTML form.

FIRSTNAME :
 LASTNAME :

GENDER :
 Male Female

SUBJECTS:

- Multimedia
- Operating System
- CSA

Q.17. Create the following HTML form.

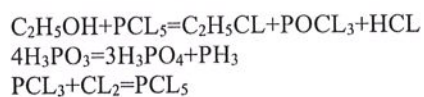
Enter your name :
 Enter your rollno :

Subjects :
 Java
 C
 Visual Basic
 C++

Class:

- BCA I
- BCA II
- BCA III

Q.18. Write the HTML coding for the following equations:



Q.19. Write the HTML code to display the following:

1. Actors

1. Bruce Willis

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2. Gerard Butler
3. Vin Diesel
4. Bradd Pitt

2. Actress

1. Julia Roberts
2. Angelina Jolie
3. Kate Winslet
4. Cameron Diaz

Q.20. Write the HTML code to display the following:

1. Cricket Players

1. Batsman

1. Sachin Tendulkar
2. Rahul Dravid
3. Virendra Sehwag

2. Bowler

- a. Kumble
- b. Zaheer Khan
- c. Balaji

3. Spinner

- a) Harbhajan
- b) Kumble
- c) Kartik

Note: At least 5 programs of CSS and Java Script to be done separately.



GOVT. V.Y.T. P.G. AUTONOMOUS COLLEGE, DURG (C.G.)
DEPARTMENT OF COMPUTER SCIENCE
SYLLABUS FOR AY 2022-23
BCA – II SEMESTER
COURSE CODE: BCA-207(L+P)
SEC2- Programming in PHP.

Max Mark: 25+25

Min Marks: 10+10

Note: The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice.
Only Simple calculators allowed not scientific calculator.

Course Objectives	Course Outcomes
The OOPs with JAVA course aim to introduce the concept of object-oriented programming, and will be able to implement the various features of OOPs. He /she will efficiently write programs to solve real world problems using Java The subject will build the foundation for implementing Object Oriented concept for problem solving	On successful completion of the course, the student will be able to understand and build a website with server side programming using PHP and MySQL Srever.

Introduction to PHP

Features, Advantages of PHP over other scripting languages, Installing, creating and running PHP script, working with variable, constant. Operators in PHP, Control statements, Looping constructs, String function, Arrays, User defined function, Working with forms, Accessing database through PHP.

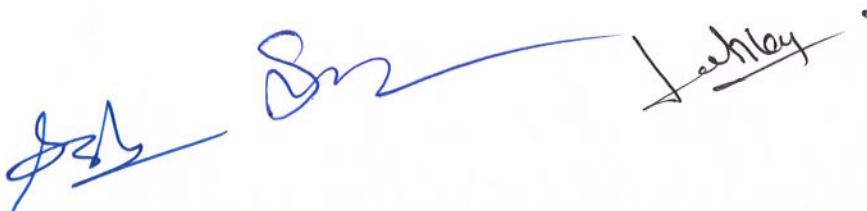
PHP with MySQL

DESIGNING ACCESSIBLE TABLES – Understanding and creating database and Tables in MySQL, understanding database connection with PHP and MySQL, Creating Web pages and accessing database Tables with various SQL Queries.

Text Books:

S. No. Title Authors Publisher

1. Web Technologies : HTML, JAVASCRIPT, PHP, JAVA, JSP, ASP, NET, XML and Ajax, Black Book by Dream Tech Press.



DIRECTIVES FOR STUDENTS, FACULTY AND EXAMINERS

1. There shall be three sections (Section A, B, and C) in each theory paper.
2. Section A shall contain very short answer type questions (One or two line answer) or objective type questions (fill in the blank). **(not multiple choice questions)**
3. Section B shall contain short answer type questions with the limit of 150 words
4. Section C shall contain long answer/ descriptive type questions. The students are required to answer precisely and the answer should not exceed the limit of 350 words.
5. The students are required to study the content mentioned in the curriculum exhaustively.

EVALUATION PATTERN OF DSC, GEC AND AEC

- **Theory 80 marks+ Internal and Assignment – 20 Marks**

Total – 100 Marks

Question Type	MM 80 (Marks X No. of Q.)
A (Very short Ans.)	1X10 = 10
B (Short Ans.)	4X5 = 20
C (Long Ans.)	10X5 =50

- **Theory- 60 marks + Internal and Assignment – 15 Marks**

- **Practical- 25 marks**

Total – 100 Marks

Question Type	MM 80 (Marks X No. of Q.)
A (Very short Ans.)	1X10 = 10
B (Short Ans.)	4X5 = 20
C (Long Ans.)	6X5 =30

EVALUATION PATTERN FOR SEC and VAC

- **Theory 25 marks**

- **Practical 25 marks**

- **Total – 50 Marks**

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Corrigendum for UG Classes

1. Section –A (very short answer question)


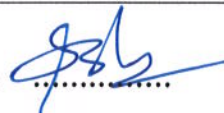

There shall be 10 objective type questions (No multiple choice). All questions are compulsory; at least one from each unit.

2. Section B, Section C

There shall be 10 questions, two questions from each unit.

The candidate has to attempt one question from each unit.

Name and Signatures

<p>V.C. Nominee</p> <p>Subject Expert</p> <p>Subject Expert.....</p> <p>Alumni(member).....</p> <p>Prof. from other Dept. of Sc. Faculty </p> <p>Specialist from Industry</p>	<p>Departmental members</p> <p>1. HOD-Mr. Dileep Kumar Sahu </p> <p>2. Mrs. Latika Tamrakar </p>
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