Eklavya University

SESSION

2023-24

B.Sc. (Computer Application)

I SEMESTER

SYLLABUS

OF

NEP

School of Basic and Applied Sciences

EKLAVYA UNIVERSITY, DAMOH (M.P.)
Scheme of Examination B.Sc I Semester (Major/Minor)
School of Basic and Applied Sciences (Academic Session 2023-24)
Subject wise distribution of marks and corresponding credits

S. No.	Subject Name	Subject Code	Paper Name	Theory Slot: External Assesment (End Term) FINAL EXAM	Theory Slot: Internal Assesment Class test (Descriptive & Objective)/Assignment/Seminar/ Internal Assesment I	Internal Assesment II	Assignment/ ppt presention	Practical Slot: Internal Assesment Class test/ Interaction	Attendance	Assignment/ Presentation	Practical Slot: External Assesment Viva Voce	Sessional/ Practical Record	Lab Work	Total Marks	L	T	P	Total Credits
1	Botany	23S1BOTA1T	Applied Botany	60	10	10	20							100	4	_	0	4
		23S1BOTA1P	Applied Botany Practical					10	10	20	10	10	40	100	_	_	2	2
2	Zoology	23S1ZOOL1T	Animal Diversity : Non-Chordata	60	10	10	20							100	4	_	0	4
		23S1ZOOL1P	Invertebrata					10	10	20	10	10	40	100	_	_	2	2
3	Physics	23S1PHYS1T	Thermodynamics and stastical Physics	60	10	10	20							100	4	_	0	4
		23S1PHYS1P	Thermodynamics and stastical Physics Lab					10	10	20	10	10	40	100	_	_	2	2
4	Mathematics	23S1MATH1T	Algebra, Vector analysis and Geometry	60	10	10	20							100	4	_	0	4
5	Chemistry	23S1CHEM1T	Fundamentals of Chemistry	60	10	10	20							100	4	_	0	4
		23S1CHEM1P	Qualitative & Quantitative Chemical Analysis					10	10	20	10	10	40	100	_	_	2	2
6	Computer Application	23S1COAP1T	Programming in C language	60	10	10	20							100	4	_	0	4
		23S1COAP1P	Programming in C language (Practical)					10	10	20	10	10	40	100	_	_	2	2
8	Industrial Microbiology	23S1INMB1T	Tools and Techniques in Industrial Microbiology	60	10	10	20							100	4	_	0	4
		23S1INMB1P	Techniques in Industrial Microbiology					10	10	20	10	10	40	100	_	_	2	2
9	Biotechnology	23S1BTEC1T	Cell Biology and Biochemistry	60	10	10	20							100	4	_	0	4
		23S1BTEC1P	Lab Work for Cell Biology and Biochemistry					10	10	20	10	10	40	100	_	_	2	2

Eklavya University Damoh (M.P.)
School of Basic &Applied Sc.
Scheme of Examination B.Sc. I Semester Ability Enhancement Cource AEC
Session - 2023-2024
Subject Wise Distribution of makes and Corresponding Credits

S.no	Course	Subject Code	Subject Name	Foundation Course Maximum Marks Alloted Theory Slot				Total Marks	Contact Periods Per Week			Total Credits
				EA (UE)	IA/CCE (Class Test)	Assignment/ Presentation)	Pratical		L	T.	P	
1	Foundation Course	23FC1A	English	50	0	0	0	100	2	0	0	4
			Environmental Studies	50	0	0	0		2	0	0	
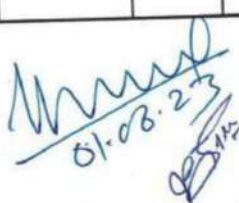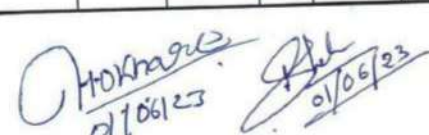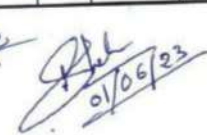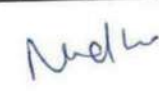
EKLAVYA UNIVERSITY, DAMOH (M.P.)

Scheme of Examination B.Sc I Semester (Generic Elective) (From other faculty)
School of Basic and Applied Sciences (Academic Session 2023-24)
Subject wise distribution of marks and corresponding credits

S. No.	Subject Name	Subject Code	Paper Name	Maximum Marks Allotted										Total Marks	Contact Periods Per week			Total Credits
				Theory Slot				Practical Slot										
				External Assesment (End Term Exam)	Internal Assesment Class test (Descriptive & Objective) / Assignment / Seminar			Internal Assesment			External Assesment				L	T	P	
				FINAL EXAM	Internal Assesment I	Internal Assesment II	Assignment / ppt presention	Class test/ Interaction	Atten dance	Assignmen t/ Presentatio n	Viva Voce	Sessional/ Practical Record	Lab Work					
1	Generic Elective	23A1GEOG2G	Environmental Issues and Disaster Management	60	10	10	20							100	4	–	0	4
		23A1RBAN1G	Money & Banking	60	10	10	20							100	4	–	0	4

Class	B.Sc./ B.A./ B.Com.
Semester	I Semester
Subject & Subject Code	Programming in C Language 23S1COAP1T
Course Title	Computer Application
Max. Marks	60 (ESE) + 40(I) = 100

Credit			Total Credits
L	T	P	4
4	0	0	

Course Learning Outcomes:
On completion of this course, students will be able -
1. To explore the basics of C programming language.
2. To approach the programming tasks using techniques learned and write pseudo-code.
3. To choose the right data representation format based on the requirements of the problem.
4. To use the comparisons and limitations of the various programming constructs and choose the right one for the task at hand.
5. To identify tasks in which the numerical techniques learned are applicable and apply them to write programs and hence use computers effectively to solve the tasks.

Unit	Syllabus	Periods
UNIT - I	Programming fundamentals: Program Concept, C language: Introduction, history of C, Overview of procedural programming and object-oriented programming, the structure of C program, Algorithms, Flow Chart - Symbols, Rules for making Flow chart, Types of the flowchart, techniques of problem-solving: Programming Techniques -Top-down, Bottom-up, Modular, Structure - Features, Merits & Demerits, Programming Logics- Simple Branching, Looping Recursion, Cohesion & Coupling, Programming using compiler and interpreter, Testing & Debugging & their Tools.	12
UNIT - II	Programming in C including features of 'C', C tokens Variables, Expressions, Identifiers, Keywords, Data Types, Constants, Operator: Arithmetic, Logical, Relational Conditional, and Bitwise Operators, Precedence and Associatively of Operators, evaluations of Expressions, Type conversions in expressions, Basic Input/Output and library functions: Single character input/output i.e. getch(), getchar(), getch(), put(), putch(), and putchar(), Formatted input output i.e. printf(), and scanf(). Decision-Making Branching: if-else, Switch, conditional operator& goto statements If statement, If---- Else statement, Nesting ofIf...Else Statement, else if ladder,? Operator, goto statement, Switch statement Compound statement. Looping: Introduction while statement, do statement, for statement, Break and Continue, do-while loops.	12

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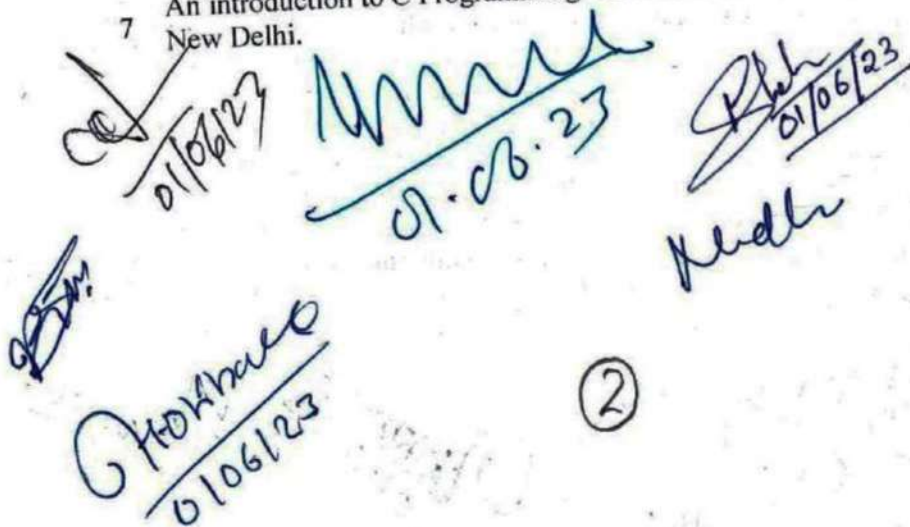
UNIT - III	Functions: Utility of functions, Call by value & call by reference, categories of functions (i) Introduction (ii) User defined function and library functions, Categories of User-defined functions, Return values and their types, calling a function, Void functions, Differentiating between declaration and definition of function argument/parameters in functions, Functions with a variable number of arguments, recursion, Function arguments, Return values and nesting of function, Recursion, Calling of functions, Scope and life of variables local and global variable, Storage class auto, extern static, register. Arrays: what is an array, declaring initializing, accessing individual elements in an array, manipulating array element using loops, 2D and 3D arrays. String: declaration, string functions- that, strcpy, strcmp, strlen, strstr.	12
UNIT - IV	Pointers: operations on pointers, Basic of pointers, and operators Accessing the address of a variable, Declaring and initializing pointers, accessing a variable through its pointer, Pointer expressions, Pointers and function, Array of pointers, Pointer and strings, Pointer to structure, Pointer within the structure, pre-processor, define, defining functions like macros, #error, #include, conditional compilation directives i.e., #if, #else, #elif and #ifdef & under. Structures: structure definition, declaring and initializing structure variables, the structure tag, period operator, accessing structure members, Copying & Comparison of structures, the concept of the structure of a structure, an array of structure, structure and pointer, arrow operators, and nesting of structure. Unions: initialization and use of it in a program.	12
UNIT - V	File Management: Introduction - File handling, File structure, File handling function, file types, Streams, Text, Binary, File system basics, The file pointer, Opening a file, Closing a file, Writing a character, Reading a character, Using fopen(), get() and fclose(), Using feof(), Working with string fputs(), and fgets(), standard streams in C, Flushing a stream Using fread() and fwrite(), Direct access file, fseek() and random access I/O fprintf() and fscanf(), Command line arguments.	12

Text Books: –

1 The C Programming Language: B.W. Kerneghan & D.M Ritchie
2 The Spirit of C: Cooper Mullish
3 Programming of ANSI-C: E. Balagurusami, TMH Publication
4 Programming in C: Schaum Outline, McGraw- Hill
5 Let us C: Kanetkar Y
6 Pointers in C: Kanetkar Y
7 An introduction to C Programming- Amit Saxena. Anamaya Publishers, New Delhi.

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School of Basic And Applied Sciences

Class	B.Sc./B.A./B.Com.
Semester	I Semester
Subject & Subject Code	Programming in C Language Lab- 23S1COAP1P
Max. Marks	60 (ESE) + 40(I) = 100

Credit			Total Credits
L	T	P	2
0	0	2	

Course Outcome:

After completing this lab course, students will be able to:

1. Understand how computer works and will be able to understand and visualize the inner working of the computer.
2. To understand the syntax semantics of C language.
3. To recognize how to develop and implement a program in the C language.
4. To recollect various programming constructs and to develop programs.
5. To acquire logical thinking, implement the algorithms and analyze their complexity.

Practical List

1. Write a Program to print different data types in 'C' and their ranges.

2. Write an Algorithm & Flowchart to convert temperature from Celsius to Fahrenheit.

3. Write an algorithm & flowchart to find the smallest and largest number among the three numbers.

4. Write a program to calculate simple and compound interest.

5. Write a C program to find the root of a quadratic equation.

6. Write a C program to make a simple calculator using switch...case.

7. Write a C program to print natural numbers from 1 to n.

8. Write a C program to find the factorial of a given number.

9. Write a program in C to check whether a given number is even or odd using the function.

10. Write a C program to access elements of an array using pointers.

11. Write a C program to calculate the average of an array elements.

12. Write a C program to store the information of 10 students using structures.

13. Add two complex numbers by passing structures to a function.

14. Write a C program to find the length of a string.

15. Write a C program to reverse a string using recursion.

16. Write a C program to find the largest element in an array.

17. Write a C program to add two matrices using multi-dimensional arrays.

18. Write a C program to store information of students using structure.

19. Write a C program to swap two numbers using pointers.

20. Write a C program to Print Pyramids and Patterns.

21. Write a C program to read and write to a text file.

Assessment and evaluation			
Suggested Contionus Evaluation Methods:			
Internal Assessment	**Marks**	**External Assessment**	**Marks**
Class Interaction / Quiz		Viva Voce on Practical	
Attendance	40	Practical Record File	60
Assignments (Charts/Model Seminar/ Rural Service/ Technology Dissemination/Report of Excursion/ Lab Visits/ Survey /Industrial Visit)		Table work/ Experiments	
Total		Total Marks : 100	

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