

(Annexure H-9)

# FACULTY OF COMPUTER SCIENCE & IT

## SYLLABUS

For

**BACHELOR OF SCIENCE (HONOURS) MATHEMATICS**  
**Semester-II**

**Credit Based Continuous Evaluation Grading System**  
**(CBCEGS)**

**Session: 2023-24**



**The Heritage Institution**

**KANYA MAHA VIDYALAYA**  
**JALANDHAR**  
**(Autonomous)**

# Kanya Maha Vidyalaya, Jalandhar (Autonomous)

SCHEME AND CURRICULUM OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAMME

## BACHELOR OF SCIENCE (HONOURS) MATHEMATICS (Session 2023-24)

Credit Based Continuous Evaluation Grading System (CBCEGS)

### BACHELOR OF SCIENCE (HONOURS) MATHEMATICS SEMESTER II

Course Code	Course Title	Course Type	Hours per week	Credit		Marks			Examination Time (in Hours)	
			L-T-P	L-T-P	Total	Total	Ext.			CA
							L	P		
BOMM-2137	Computer Fundamentals and Introduction to C Programming Language	C	3-0-2	3-0-1	4	100	50	30	20	3+3

**Bachelor of Science (Honours) Mathematics Semester–II**  
**Session 2023-24**  
**Course Code: BOMM-2137**  
**Computer Fundamentals and Introduction to C Programming Language**

**Course Outcome:**

After passing course the student will be able to:

CO1: Articulate various kind of software and hardware used in computers.

CO2: Work with different set of operations in C programming.

CO3: Apply various control statements of C Programming Language for designing solutions to different real world problems.

CO4: Implement single and multidimensional arrays for representing complex data collections.

**Bachelor of Science (Honours) Mathematics Semester–II**  
**Session 2023-24**  
**Course Code: BOMM-2137**  
**Computer Fundamentals and Introduction to C Programming Language**

**Examination Time: (3+3) Hours**

**Max. Marks: 100**

**L-T-P: 3-0-1**

**Theory: 50**

**Credit: 4**

**Practical: 30**

**CA: 20**

**Instructions for the Paper Setters:**

Eight questions of equal marks (10 Marks each) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**UNIT-I**

Introduction : Early computing devices, diverse uses of computers, block diagram, use of CPU and I/O devices, software and hardware, application software and system software, primary and secondary storage devices, Flowcharts and algorithms.

**UNIT-II**

Introduction to 'C' language: Tokens, Identifiers, Keywords, constants and literals, Data types. Operators: arithmetic, relational and logical, precedence and order of evaluation

**UNIT-III**

Control Statements: Decision control, loop control and case control. Functions and storage classes.

**UNIT-IV**

Arrays: initializing an array. one dimensional arrays: array manipulation; searching, insertion, deletion of an element from an array; finding the largest/smallest element in array; two dimensional arrays, addition/multiplication of two matrices, program to transpose a square matrix; null terminated strings as array of characters.

**References / Textbooks:**

1. E. Balagurusamy, Programming in ANSI C, Tata McGraw-Hill (2002), 5<sup>th</sup> edition.
2. Stephen G. Kochan, Programming in C, Pearson Education (2015), 4<sup>th</sup> edition.
3. Rachhpal Singh, Gurvinder Singh, Windows based computer courses, Kalyani Publishers (2011).
4. Yashwant Kanetkar, Let us C, BPB Publications (2020), 17<sup>th</sup> edition.
5. R.S. Salari, Application Programming in C, Khanna Book Publishing (2012), 4<sup>th</sup> edition.

6. Anshuman Sharma, Learn programming in C, Lakhanpal Publishers (2016), 7<sup>th</sup> edition.