

Modules of Classes and Examinations, Even Semester-January to June (2023-'24)

CCFUP 3 Years Degree in Computer Science

Hiralal Bhakat College

Semester-II

Course Type: Major

Course Title: Programming Fundamentals using C

Course Code: COMP 2011

Evaluation process is divided into three (3) components, viz. C1, C2, and C3.

Total Marks: **75** (10+5+60), Credits: 4, Lecture Hours: (45+30)

10 Marks for Internal Assessment (will be organized by the College in general and Department in Particular), that is **C1**. 10 Marks will be evaluated through **Class Test** or Assignment or Seminar. Appearance in C1 is mandatory.

Marks division of Class Test will be 10 or **5+5** or 2+2+2+2+2.

Tentative **Date** and **Time** of Class Test or Assignment or Seminar: During the end of the 10th week of the semester when approximately 60% of the syllabus of course is to be completed.

5 Marks for Attendance that is **C2**.

Attendance: 50% & above but below 60% - 2 Marks

Attendance: 60% & above but below 75% - 3 Marks

Attendance: 75% & above but below 90% - 4 Marks

Attendance: 90% & Above - 5 Marks

60 (40+20) Marks for Semester-end-Examination.

40 Marks (Theory) will be organized by University.

Syllabus: Whole

Duration: Two Hours

Question Pattern:

Answer 05 questions out of 08 carrying 02 marks each = $05 \times 02 = 10$ marks

Answer 02 questions out of 04 carrying 05 marks each = $02 \times 05 = 10$ marks

Answer 02 questions out of 04 carrying 10 marks each = $02 \times 10 = 20$ marks

20 Marks (Practical) will be organized by College.

Syllabus: Whole

Duration: Two Hours

Question Pattern/ Marks Division:

Laboratory Note Book: 05 Marks

Viva- voce: 05 Marks

Experiment: 10 Marks

A project File (Laboratory Note Book), comprising one exercise each is to be submitted.

Topic : Programming Fundamentals using C

Sl. No.	Topic	Lecture Hours	Name of Teacher(s)
1	Basic Structure, Character sets, Keywords, Identifiers, Constants, Variables, Data Types, Program Structure. Operators: Arithmetic, Relational, Logical and Assignment; Increment, Decrement and Conditional, Operator Precedence and Associations; Assignment, Initialization, Expressions. Expression evaluation and type conversion. Formatted input and output, Conditional statements, Branching and looping, Array	15	Sk Abdul Hanif
2	Arguments passing, Return values and their types, recursion. String handling with arrays, String handling functions,. Enumerated data types. Structures. Arrays of structures. Arrays within structures, union.	10	
3	Declaration and initialization, Accessing variables through pointer arithmetic, Pointers and arrays, String, Pointer to Functions and Structures, Dynamic Storage Allocation.	15	
4	File handlings: Opening, Closing, I/O operations.	5	

Topic : Programming Fundamentals using C (Practical)

Sl. No.	Topic	Lecture Hours	Name of Teacher(s)
1	Simple programs	30	Sk Abdul Hanif

Semester-II**Course Type: Skill Enhancement Course (SEC)****Course Title: System Administration and Maintenance (Practical)****Course Code: COMP 2051**

Evaluation process is divided into three (3) components, viz. C1, C2, and C3.

Total Marks: **50** (10+40), Credits: 3, Practical Hours: 90

10 Marks for Internal Assessment (will be organized by the College in general and Department in Particular), that is **C1**. 10 Marks will be evaluated through **Class Test** or Assignment or Seminar. Appearance in **C1** is mandatory.

Marks division of Class Test will be 10 or **5+5** or 2+2+2+2+2.

Tentative **Date** and **Time** of Class Test or Assignment or Seminar: During the end of the 10th week of the semester when approximately 60% of the syllabus of course is to be completed.
C2 is not applicable for SEC.

40 Marks for Semester-end-Examination (will be organized by University) that is **C3**.

Syllabus: Whole

Duration: Four Hours

Question Pattern:

Laboratory Notebook – 05 marks

Viva-voce – 10 marks

Experiments – 25 marks

Topic List

Unit-1: (Linux/Unix)

Sl. No.	Topic	Lecture Hours	Name of Teacher(s)
1	Basics of operating system, services,	45	Sk Abdul Hanif
2	Installation and configuration, maintenance		
3	What is linux/unix Operating systems, Kernel, API, cli, gui,		
4	Difference between linux/unix and other operating systems		
5	Linux features, advantages, disadvantages		

Unit-2: (Windows)

Sl. No.	Topic	Lecture Hours	Name of Teacher(s)
1	Windows as operating system, history, versions.	45	Sk Abdul Hanif
2	PC hardware, BIOS, Devices and drivers,		
3	Kernal Configuration and building		
4	Application installation, configuration and maintenance		
5	Server services and Client services		

Semester-II

Course Type: Minor (For other discipline)

Course Title: Python Programming

Course Code: COMP 2021

Evaluation process is divided into three (3) components, viz. C1, C2, and C3.

Total Marks: **75** (10+5+60), Credits: 4, Lecture Hours: (45+30)

10 Marks for Internal Assessment (will be organized by the College in general and Department in Particular), that is **C1**. 10 Marks will be evaluated through **Class Test** or Assignment or Seminar. **Appearance in C1 is mandatory.**

Marks division of Class Test will be 10 or **5+5** or 2+2+2+2+2.

Tentative **Date** and **Time** of Class Test or Assignment or Seminar: During the end of the 10th week of the semester when approximately 60% of the syllabus of course is to be completed.

5 Marks for Attendance that is **C2**.

Attendance: 50% & above but below 60% - 2 Marks

Attendance: 60% & above but below 75% - 3 Marks

Attendance: 75% & above but below 90% - 4 Marks

Attendance: 90% & Above - 5 Marks

60 (40+20) Marks for Semester-end-Examination.

40 Marks (Theory) will be organized by University.

Syllabus: Whole

Duration: Two Hours

Question Pattern:

Answer 05 questions out of 08 carrying 02 marks each = $05 \times 02 = 10$ marks

Answer 02 questions out of 04 carrying 05 marks each = $02 \times 05 = 10$ marks

Answer 02 questions out of 04 carrying 10 marks each = $02 \times 10 = 20$ marks

20 Marks (Practical) will be organized by College.

Syllabus: Whole

Duration: Two Hours

Question Pattern/ Marks Division:

Laboratory Note Book: 05 Marks

Viva- voce: 05 Marks

Experiment: 10 Marks

A project File (Laboratory Note Book), comprising one exercise each is to be submitted.

Topic : Python Programming (Theory)

Sl. No.	Topic	Lecture Hours	Name of Teacher(s)
1	Planning the Computer Program: Concept of problem solving, Problem definition, Program design, Debugging, Types of errors in programming, Documentation.	10	Sk Abdul Hanif
2	Techniques of Problem Solving: Flowcharting, decision table, algorithms, Structured programming concepts, Programming methodologies viz. top-down and bottom-up programming.	10	
3	Overview of Programming: Structure of a Python Program, Elements of Python Storage Allocation.	5	
4	Introduction to Python: Python Interpreter, Using Python as calculator, Python shell, Indentation. Atoms, Identifiers and keywords, Literals, Strings, Operators (Arithmetic operator, Relational operator, Logical or Boolean operator, Assignment, Operator, Ternary operator, Bit wise operator, Increment or Decrement operator.	10	
5	Creating Python Programs : Input and Output Statements, Control statements(Branching, Looping, Conditional Statement, Exit function, Difference between break, continue and pass.), Defining Functions, default arguments.	10	Sk Abdul Hanif

Topic : Python Programming (Practical)

Sl. No.	Topic	Lecture Hours	Name of Teacher(s)
1	Simple programs, Visual Python,	30	Sk Abdul Hanif

Modules of Classes and Examinations, Even Semester- January to June (2023-24')

B.Sc. (General) in Computer Science

Semester-IV

Hiralal Bhakat College, Nalhati

Core Course (CC-3D) Computer System Architecture

Evaluation process is divided into four (4) components, viz. C1, C2, C3 and C4. Internal Assessment of each course will consist of **C1** and **C2**. C1 and C2 will be taken together. 2/3 of the syllabus is to be completed during the 16th week of the course. Appearance in C1 & C2 is mandatory.

Total Marks: **75** (10+5+60), Credits: 6, Lecture Hours: 6 (per Week)

10 Marks for Internal Assessment (will be organized by College in general and Department in Particular). 10 Marks will be evaluated through Class Test or Assignment or Seminar. Marks division of Class Test will be 10 or **5+5** or 2+2+2+2+2.

5 Marks for Attendance that is **C3**.

Attendance: 50% & above but below 60% - 2 Marks

Attendance: 60% & above but below 75% - 3 Marks

Attendance: 75% & above but below 90% - 4 Marks

Attendance: 90% & Above - 5 Marks

60 (40+20) Marks for Semester-end-Examination.

40 Marks (Theory) will be organized by University.

Syllabus: Whole

Duration: Two Hours

Question Pattern:

Answer 05 questions out of 08 carrying 02 marks each = $05 \times 02 = 10$ marks

Answer 02 questions out of 04 carrying 05 marks each = $02 \times 05 = 10$ marks

Answer 02 questions out of 04 carrying 10 marks each = $02 \times 10 = 20$ marks

20 Marks (Practical) will be organized by College.

Syllabus: Whole

Duration: Two Hours

Question Pattern/ Marks Division:

Laboratory Note Book: 05 Marks

Viva- voce: 05 Marks

Experiment: 10 Marks

A project File (Laboratory Note Book), comprising one exercise each is to be submitted.

Topic List

Syllabus	Number of Lecture	Course	Name of Teacher
Introduction: Logic gates, boolean algebra, combinational circuits, circuit simplification, flip-flops and sequential circuits, decoders, multiplexors, registers, counters and memory units. Data Representation and basic Computer Arithmetic: Number systems, complements, fixed and floating point representation, character representation, addition, subtraction, magnitude comparison.	20 L	CC	Sk Abdul Hanif
Basic Computer Organization and Design: Computer registers, bus system, instruction set, timing and control, instruction cycle, memory reference, input-output and interrupt.	18 L		
Central Processing Unit: Register organization, arithmetic and logical micro-operations, stack organization, micro programmed control.	10 L		
Programming the Basic Computer: Instruction formats, addressing modes, instruction codes, machine language, assembly language, input output programming. Input-output Organization: Peripheral devices, I/O interface, Modes of data transfer, direct memory access.	12 L		
Computer System Architecture Lab		Practical	Sk Abdul Hanif

Skill Enhancement Course (SEC-2) : **HTML Programming**

Evaluation process is divided into four (4) components, viz. C1, C2, C3 and C4. Internal Assessment of each course will consist of **C1** and **C2**. C1 and C2 will be taken together. 2/3 of the syllabus is to be completed during the 16th week of the course. Appearance in C1 & C2 is mandatory.

Total Marks: **50** (10+40), Credits: 4, Lecture Hours: 4 (per Week)

10 Marks for Internal Assessment (will be organized by College in general and Department in Particular). 10 Marks will be evaluated through **Class Test** or Assignment or Seminar. Marks division of Class Test will be 10 or **5+5** or 2+2+2+2+2.

C3 is not applicable for SEC-2.

40 Marks for Semester-end-Examination (will be organized by College) that is **C4**.

Syllabus: Whole

Duration: Four Hours

Question Pattern:

Laboratory Note Book: 05 Marks

Viva- voce: 05 Marks

Experiment: 30 Marks

A project File (Laboratory Note Book), comprising one exercise each is to be submitted.

Topic List

Syllabus	Number of Lecture	Course	Name of Teacher
Unit-I: Introduction Unit-II: The Basics Unit-III: Links Unit-IV: Images	11 L	SEC	Sk Abdul Hanif
Unit V: – Tables Unit VI – Forms	9 L		
Software Lab Based on HTML		Practical	Sk Abdul Hanif

Modules of Classes and Examinations, Even Semester- January to June (2023-24')

B.Sc. General in Computer Science

Semester-VI

Hiralal Bhakat College, Nalhati

DSE-3B : Computer Networks

Evaluation process is divided into four (4) components, viz. C1, C2, C3 and C4. Internal Assessment of each course will consist of C1 and C2. C1 and C2 will be taken together. 2/3 of the syllabus is to be completed during the 16th week of the course. Appearance in C1 & C2 is mandatory.

Total Marks: **75** (10+5+60), Credits: 6, Lecture Hours: 6 (per Week)

10 Marks for Internal Assessment (will be organized by College in general and Department in Particular). 10 Marks will be evaluated through Class Test or Assignment or Seminar. Marks division of Class Test will be 10 or **5+5** or 2+2+2+2+2.

5 Marks for Attendance that is **C3**.

Attendance: 50% & above but below 60% - 2 Marks

Attendance: 60% & above but below 75% - 3 Marks

Attendance: 75% & above but below 90% - 4 Marks

Attendance: 90% & Above - 5 Marks

60 (40+20) Marks for Semester-end-Examination.

40 Marks (Theory) will be organized by University.

Syllabus: Whole

Duration: Two Hours

Question Pattern:

Answer 05 questions out of 08 carrying 02 marks each = $05 \times 02 = 10$ marks

Answer 02 questions out of 04 carrying 05 marks each = $02 \times 05 = 10$ marks

Answer 02 questions out of 04 carrying 10 marks each = $02 \times 10 = 20$ marks

20 Marks (Practical) will be organized by College.

Syllabus: Whole

Duration: Two Hours

Question Pattern/ Marks Division:

Laboratory Note Book: 05 Marks

Viva- voce: 05 Marks

Experiment: 10 Marks

A project File (Laboratory Note Book), comprising one exercise each is to be submitted.

Topic List

Syllabus	Number of Lecture	Course	Name of Teacher
Basic concepts: Components of data communication, standards and organizations, Network Classification, Network Topologies; network protocol; layered network architecture; Overview of OSI reference model; overview of TCP/IP protocol suite.	16 L	DSE	SK Abdul Hanif
Physical Layer: Cabling, Network Interface Card, Transmission Media Devices- Repeater, Hub, Bridge, Switch, Router, Gateway. Data Link Layer: Framing techniques; Error Control; Flow Control Protocols; Shared media protocols - CSMA/CD and CSMA/CA.	14 L		
Network Layer: Virtual Circuits and Datagram approach, IP addressing methods – Subnetting; Routing Algorithms (adaptive and non-adaptive). Transport Layer: Transport services, Transport Layer protocol of TCP and UDP	14 L		
Application Layer: Application layer protocols and services – Domain name system, HTTP, WWW, telnet, FTP, SMTP. Network Security: Common Terms, Firewalls, Virtual Private Networks.	16 L		
Software Lab based on Computer Networks: <i>All programs should be developed in C/ C++ / Java</i> Implement the concepts of Computer Networks such as: 1. Simulate Checksum Algorithm. 2. Simulate CRC Algorithm 3. Simulate Stop & Wait Protocol. 4. Simulate Go-Back-N Protocol. 5. Simulate Selective Repeat Protocol.		Practical	SK Abdul Hanif

Skill Enhancement Course (SEC-4) : Programming in Visual Basic

Evaluation process is divided into four (4) components, viz. C1, C2, C3 and C4. Internal Assessment of each course will consist of **C1** and **C2**. C1 and C2 will be taken together. 2/3 of the syllabus is to be completed during the 16th week of the course. Appearance in C1 & C2 is mandatory.

Total Marks: **50** (10+40), Credits: 4, Lecture Hours: 4 (per Week)

10 Marks for Internal Assessment (will be organized by College in general and Department in Particular). 10 Marks will be evaluated through **Class Test** or Assignment or Seminar. Marks division of Class Test will be 10 or **5+5** or 2+2+2+2+2.

C3 is not applicable for SEC-2.

40 Marks for Semester-end-Examination (will be organized by College) that is **C4**.

Syllabus: Whole

Duration: Four Hours

Question Pattern:

Laboratory Note Book: 05 Marks

Viva- voce: 05 Marks

Experiment: 30 Marks

A project File (Laboratory Note Book), comprising one exercise each is to be submitted.

SEC – 4 : Programming in Visual Basic

Theory: 20 Lectures

Credit: 2

GUI Environment: Introduction to graphical user interface (GUI), programming language (procedural, object oriented, event driven), the GUI environment, compiling, debugging, and running the programs. (2L)

Controls : Introduction to controls textboxes, frames, check boxes, option buttons, images, setting borders and styles, the shape control, the line control, working with multiple controls and their properties, designing the user interface, keyboard access, tab controls, default & cancel property, coding for controls (5L)

Operations: Data types, constants, named & intrinsic, declaring variables, scope of variables, val function, arithmetic operations, formatting data. (3L)


Decision Making : If statement, comparing strings, compound conditions (and, or, not), nested if statements, case structure, using if statements with option buttons & check boxes, displaying message in message box, testing whether input is valid or not. (5L)

Forms Handling : Multiple forms creating, adding, removing forms in project, hide, show method, load, unload statement, me keyword, referring to objects on a different forms. (2L)

Iteration Handling: Do/loops, for/next loops, using msgbox function, using string function. (3L)


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