

No.AC.2(S)/151/2021-22

Vishwavidyanilaya Karyasoudha  
Crawford Hall, Mysore-570 005  
Dated: 14.12.2021

**NOTIFICATION**

**Sub:** Open Elective courses offered by the Department of Computer Science from the academic year 2021-22.

- Ref:** 1. Decision of Board of Studies in Computer (UG) meeting held on 25.11.2020.  
2. Decision of the Faculty of Science & Technology Meeting held on 08.02.2021.  
3. Decision of the Academic Council meeting held on 07.04.2021.


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The Board of Studies in Computer Science (UG) which met on 25.11.2020 has approved the Open Elective courses offered by the Department of Computer Science (UG) from the academic year 2021-22.

The Faculty of Science and Technology and Academic Council meeting held on 08.02.2021 and 07.04.2021 respectively have approved the above said proposal and the same is hereby notified.

The detailed changes in the Computer Science (UG) course is annexed. The contents may be downloaded from the University Website i.e., [www.uni-mysore.ac.in](http://www.uni-mysore.ac.in).

**DRAFT APPROVED BY THE REGISTRAR**

  
**DEPUTY REGISTRAR (ACADEMIC)**  
Deputy Registrar (Academic)  
University of Mysore  
Mysore-570 005

**To:**

1. The Registrar (Evaluation), University of Mysore, Mysore.
2. The Dean, Faculty of Science & Technology, DoS in Psychology, MGM.
3. The Chairperson, DoS in Computer Science (UG), Manasagangotri, Mysore.
4. The Deputy/Assistant Registrar/Superintendent, AB and EB, UOM, Mysore.
5. The P.A. to the Vice-Chancellor/Registrar/Registrar (Evaluation), UOM, Mysore.
6. Office file.

## **Open Elective courses offered by the Department of Computer Science**

### **Open Elective-1: C Programming Concepts**

#### **Semester-1**

Course Outcomes (COs): After completing this course satisfactorily, a student will be able to

- Confidently operate Desktop Computers to carry out computational tasks.
- Understand working of Hardware and Software and the importance of operating systems.
- Understand programming languages, number systems, peripheral devices, networking, multimedia and internet concepts.
- Read, understand and trace the execution of programs written in C language.
- Write the C code for a given problem.
- Perform input and output operations using programs in C.
- Write programs that perform operations on arrays.

#### **Unit-1**

**14 Hrs**

Fundamentals of Computers: Introduction to Computers -Hardware, software System software, Application software, Utility software, Operating System; Computer Languages - Machine Level, Assembly Level & High-Level Languages, Translator Programs – Assembler, Interpreter and Compiler; Planning a Computer Program – Algorithm and Flowchart with Examples.

Introduction to C Programming: Over View of C; History and Features of C; Structure of a C Program with Examples; Creating and Executing a C Program; Compilation process in C.

C Programming Basic Concepts: C Character Set; C tokens - keywords, identifiers, constants, and variables; Data types; Declaration & initialization of variables; Symbolic constants.

#### **Unit-2**

**14 Hrs**

Input and output with C: Formatted I/O functions - printf and scanf, control stings and escape sequences, output specifications with printf functions; Unformatted I/O functions to read and display single character and a string - getchar, putchar, gets and puts functions

C Operators & Expressions: Arithmetic operators; Relational operators; Logical operators; Assignment operators; Increment & Decrement operators; Bitwise operators; Conditional

operator; Special operators; Operator Precedence and Associativity; Evaluation of arithmetic expressions; Type conversion.

Control Structures: Decision making Statements - Simple if, if\_else, nested if\_else, else\_if ladder, Switch-case, goto, break & continue statements; Looping Statements - Entry controlled and Exit controlled statements, while, do-while, for loops, Nested loops.

### **Unit-3**

**14 Hrs**

User Defined Functions: Need for user defined functions; Format of C user defined functions; Components of user defined functions - return type, name, parameter list, function body, return statement and function call; Categories of user defined functions - With and without parameters and return type.

Arrays: One Dimensional arrays - Declaration, Initialization and Memory representation; Two Dimensional arrays - Declaration, Initialization and Memory representation. Strings: Declaring & Initializing string variables; String handling functions - strlen, strcmp, strcpy and strcat; Character handling functions - toascii, toupper, tolower, isalpha, isnumeric etc.

Basics of Pointers in C: Understanding pointers - Declaring and initializing pointers, accessing address and value of variables using pointers; Pointer Arithmetic; Advantages and disadvantages of using pointers;

#### **Text Books:**

1. Pradeep K. Sinha and Priti Sinha: Computer Fundamentals (Sixth Edition), BPB Publication
2. E. Balgurusamy: Programming in ANSI C (TMH)

#### **References:**

1. Kamthane: Programming with ANSI and TURBO C (Pearson Education)
2. V. Rajaraman: Programming in C (PHI –EEE)
3. S. ByronGottfried: Programming with C (TMH)
4. Kernighan & Ritchie: The C Programming Language (PHI)
5. Yashwant Kanitkar: Let us C 6. P.B. Kottur: Programming in C (Sapna Book House)

## Semester-1

### Open Elective 2: Office Automation

#### Course Outcomes (COs):

- Be familiar various office automation tools.
- Create and format a document.
- Create and analyze data using Excel.
- Create and customize a presentation for a specific topic.

#### Unit-1

14 Hrs

Introduction, Block diagram of a computer, Input and output devices, memory and storage devices, Types of software, Introduction to operating system – functions, types of operating system and examples.

Introduction to word processing – creating and saving a document, formatting a document – Line spacing, paragraph, Fonts, inserting symbols, header and footer, shape , Tables, Find and replace, Mail merge, saving a document in different formats.

#### Unit-3

14 Hrs

Introduction to spread sheet – entering different types of data like text, numbers, date, , functions and formulae- different categories of functions, chart-creating and formatting a chart, filter, working with single and multiple work books, cell referencing, printing and previewing a document.

#### Unit-3

14 Hrs

Introduction to presentation tools-creating and viewing a presentation, applying design template, formatting options, inserting different objects in a presentation, customize a presentation, adding audio to a presentation, Slide animation, preview Slide transitions Slide show options, adding effect to presentation.

#### Reference books

1. Computer Basics with Office Automation- Archana Kumar, Dreamtech press, First Edition.
2. The Handbook of Office Automation- Ralph Tomas Reilly, Iuniverse publication, First Edition.

**II Semester**  
**Open Elective: Web Designing**  
**Syllabus**

<b>Course Credits: 03</b>	<b>Course Title: Web Designing</b>
<b>Total Contact Hours: 42</b>	<b>Hours/Week: 03</b>
<b>Exam Marks: 60 and Duration: 02 Hours</b>	<b>Formative Assessment Marks: 40</b>

**Course Outcomes (COs):**

- Be familiar with different web design theories and terminology.
- Analyze a web page and identify its elements and attributes.
- Create web pages using XHTML and Cascading Style Sheets.
- Build dynamic web pages using JavaScript (Client-side programming)

**Unit-1**

**14 Hours**

Fundamentals: Internet, WWW, Web Browsers and Web Servers, URLs, MIME, HTTP, Security, the Web Programmers Toolbox. Introduction to XHTML: Basic syntax, Standard structure, Basic text markup, Images, Hypertext Links, Lists, Tables, Forms, Frames

Introduction, Levels of style sheets, Style specification formats, Selector forms, Property value forms, Font properties, List properties, Color, Alignment of text, The box model, Background images, <Span> and <Div> tags

**Unit-2**

**14 Hours**

The Basics of JavaScript: Overview of JavaScript, Object orientation and JavaScript, Syntactic characteristics, Primitives, operations, and expressions, Screen output and keyboard input, Control statements, Object creation and modification, Arrays, Functions, Constructors, Pattern matching using regular expressions, Errors in scripts, Examples.

The JavaScript execution environment, The Document Object Model, Element access in JavaScript, Events and event handling, handling events from the Body elements

**Unit-3**

**14 Hours**

Button elements, Text box and Password elements, The DOM 2 event model, the navigator object, DOM tree traversal and modification.

Dynamic documents with JavaScript: Introduction, positioning elements, Moving elements, Element visibility, Changing colors and fonts, Dynamic content, Stacking elements, locating the mouse cursor, Reacting to a mouse click, slow movement of elements, Dragging and dropping elements.

**Text Books:**

1. Robert W. Sebesta: Programming the World Wide Web,4th Edition, Pearson Education, 2008.

**References:**

1. M. Deitel, P.J. Deitel, A. B. Goldberg: Internet & World Wide Web How to Program, 4th Edition, Pearson Education, 2004.

2. Chris Bates: Web Programming Building Internet Applications,3rd Edition, Wiley India, 2007.

3. Xue Bai et al: The web Warrior Guide to Web Programming, Cengage Learning, 2003.

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**II Semester**  
**Open Elective: e-commerce**  
**Syllabus**

<b>Course Credits: 03</b>	<b>Course Title: e-commerce</b>
<b>Total Contact Hours: 42</b>	<b>Hours/Week: 03</b>
<b>Exam Marks: 60 and Duration: 02 Hours</b>	<b>Formative Assessment Marks: 40</b>

**Course Outcomes (COs):**

- Be familiar with different e-commerce theories and terminology.
- Assess the impact of internet and internet technology in a business electronic commerce and electronic business.
- Learn strategies for e-commerce and electronic payment system.

**Unit-1**

**14 Hours**

Introduction to e-commerce, the difference between e-commerce and e-business, Technological building blocks underlying e-commerce: the Internet, Web, and Mobile Platform, Major Trends in e-commerce, Unique Features of e-commerce Technology.

Modes of electronic commerce: Overview, Electronic data interchange (EDI), e-commerce with WWW/Internet. Payments and Security: Electronic cash and Electronic payment Schemes: Internet monetary payment and Security requirements, payment and purchase order process, On-line electronic cash.

**Unit-2**

**14 Hours**

Types of e-commerce : Business-to-Consumer (B2C) , Business-to-Business (B2B) , Consumer-to-Consumer (C2C), Mobile e-commerce (M-commerce), Social e-commerce, Local e-commerce.

Consumer-oriented e-commerce: Introduction, Traditional retailing and e-retailing, benefits of e-retailing, Key success factors, Models of e-retailing, features of e-retailing, developing a consumer-oriented e-commerce system, The PASS model.

**Unit-3****14 Hours**

e-Commerce Infrastructure : The Internet, Technology Background , Internet – Key Technology concepts, TCP/IP, IP addresses, Domain names, DNS and URLs, Client Server Computing, Cloud computing model, Mobile platform.

Internet and Web: Hypertext, HTML, XML, Web servers and clients, Web browsers, Communication tools – E mail, messaging apps.

**Text Books:**

1. Laudon, Kenneth C., and Carol Guercio Traver. *E-Commerce 2020-2021*. Pearson, 2020.
- 2.Laudon, Kenneth C., and Carol Guercio Traver. *E-commerce Essentials*. Pearson, 2014.

**References:**

1. Ravi Kalakota, Andrew B. *Frontiers of Electronic Commerce*, Addison Wesley 1996.

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