

**Syllabi and Scheme of Examinations
for
Multidisciplinary Courses for Under Graduate Programs
(Single Major / Multidisciplinary Programs) of Computer
Science
(Based on Curriculum and Credit Framework for UG Programs under NEP)**



With Effect from the Session 2024-25

**MAHARSHI DAYANAND UNIVERSITY
ROHTAK (HARYANA)**

SYLLABI AND SCHEME OF EXAMINATIONS FOR MULTIDISCIPLINARY COURSES FOR UNDER GRADUATE (SINGLE MAJOR/MULTIDISCIPLINARY PROGRAMS/ SINGLE MAJOR PROGRAM AFTER 2nd SEMESTER OF MULTIDISCIPLINARY PROGRAM

Multidisciplinary Course (MDC)	TYPE OF PROGRAM				Credits Distribution			Total Credits	Workload			Total Workload	Marks					
	SINGLE MAJOR PROGRAM	MULTIDISCIPLINARY PROGRAM / SINGLE MAJOR PROGRAM AFTER 2nd SEMESTER OF MULTIDISCIPLINARY PROGRAM	Nomenclature of Course	Course Code	L	T	P		L	T	P		Theory		Practical		Total Marks	
	SEMESTER	SEMESTER								Internal	External							
MDC 1 @ 3 credits	1	1	Fundamentals of Computing	24CSCX01MD01	3	0	0	3	3	0	0	3	25	50	----	----	75	
MDC 2 @ 3 credits	2	2	Office Automation	24CSCX02MD01	2	0	1	3	2	0	2	4	15	35	25			75
MDC 2 @ 3 credits	3	3	Web Designing	25CSCX03MD01	2	0	1	3	2	0	2	4	15	35	25			75

L: Lecture; T: Tutorial; P: Practical

Note:

1. The Syllabi and Scheme of Examinations (SOE) for Minor (Vocational) Courses for UG Semester 7 and Semester 8 will be same as applicable for Vocational Course in Post Graduate semester 1 and semester 2 respectively.
2. Course coding of Minor courses for Single Major Programs will be applicable for Multidisciplinary Programs/ Multidisciplinary Programs after 2nd semester irrespective of their offering in any semester.
3. The student who select any Minor Course (MIC) of any discipline in first semester should study the Minor courses (MIC) in the same discipline in the subsequent semesters. However, while exercising the option for choosing Minor Vocational Course MIC (VOC), the student may opt the discipline either related to the discipline of Minor Course or the discipline of Major Course or any other discipline as per his/her choice.

Syllabi for Multidisciplinary Courses for Under Graduate Programs (Single Major / Multidisciplinary Programs) of Computer Science

Semester: I
Session: 2024-25

Name of the Program	Multidisciplinary Courses (Single Major / Multidisciplinary Programs)	Program Code	-----
Name of the Course	Fundamentals of Computing	Course Code	24CSCX01MD01
Hours/Week	3+0+0	Credits (L:T:P)	3:0:0
Max. Marks.	Theory: 75 (50+25)	Time of end term examination	3 Hours
Note: The examiner has to set nine questions in all by setting two questions from each Unit and Question No. 1 consisting of short-answer type questions covering the entire syllabus. Student will be required to attempt five questions in all by selecting one question from each Unit and Question No. 1, which is compulsory.			
Course Objectives: The main objective is to introduce basics of Computers and its working in a simple language to all undergraduate students, regardless of their specialization. It will help them to pursue specialized programs leading to technical and professional careers and certifications in the industry. The focus of the subject is on introducing skills relating to computer fundamentals, computer applications, problem solving, computer networking, data communication, programming, Internet basics etc.			
Course Outcomes: By the end of the course the students will be able to: CO1: Learn the fundamental concepts of Computers and understand various input and output devices. CO2: Understand the concept of memory and its types. CO3: Learn about the role of operating system and its functions. CO4: Understand the concept of data communication, networking and Internet. CO5: Know about E-Mail and the concepts related to Business data processing.			
Unit – I			
Introduction: Historical evolution of computing, Computers and their classification; Working of a computer; Block Diagram and its components; Characteristics, Benefits and Limitations of Computers. Human being Vs. Computer. Computer Codes and their types. Input and Output Devices: Introduction to I/O concepts, Hardcopy and Softcopy Devices; Keyboards, mouse, joysticks, trackballs, digitizer, voice-recognition, optical-recognition, scanners, terminals, point-of-sale terminals, machine-vision systems, Printer & its types.			
Unit – II			
Memory & Mass Storage Devices: Characteristics of memory systems, types of memory, RAM, ROM, magnetic disks-floppy disk, hard-disk; optical disks; Magnetic tapes; Concepts of Virtual and Cache memory Software and Operating System Concepts: Introduction, Software and its types, Language translators, Operating System and its Functions, Measuring System Performance, Assemblers, Compilers and Interpreters. Batch Processing, Multiprogramming, Multi-tasking, Multiprocessing, Time Sharing, DOS, Windows, Unix/Linux.			
Unit – III			
Problem Solving and Programming Languages: Concept of problem solving, Problem definition,			

Programming Languages and their classification, Problem solving with computer, Concept of a programming and design techniques, computer program lifecycle and program development process.

Data Communication: Introduction, forms of data transmission, modem and its types, communication channels, data transmission modes. **Computer Networks:** Introduction to Computer Network, types of Computer Network, Network Topologies, Network Protocols, Applications of Computer Networks.

Unit – IV

Internet: Introduction to Internet, WWW, Web Browsers, Evolution of Internet, Applications of Internet, Connecting to Internet, Internet tools. **Electronic Mail:** Introduction to E-mail, Setting Up an E-mail Account, Composing and Sending E-mails, E-mail Etiquette and Best Practices, Managing E-mails, Security and Privacy, Advanced E-mail Features, E-mail in Professional Settings, Troubleshooting Common E-mail Issues.

Computer Applications: Computer applications in Artificial Intelligence, Banking, Education, Marketing, Desktop publishing, CAD/CAM, Project Management, Military, Sports, Research & Development.

Suggested Readings:

1. Gill Nasib Singh: Handbook of Computer Fundamentals, Khanna Book Publishing Company (Pvt.) Limited, New Delhi.
2. Donald Sanders: Computers Today, McGraw-Hill Publishers.
3. Davis: Introduction to Computers, McGraw-Hill Publishers.
4. V. Rajaraman: Fundamental of Computers, Prentice-Hall India Ltd., New Delhi.
5. Gill Nasib Singh: Computing Fundamentals and Programming in C, Khanna Book Publishing Company (Private) Limited, New Delhi.
6. Peter Norton: Introduction to Computers, McGraw-Hill Education
7. E. Balagurusamy, Fundamentals of Computers, McGraw-Hill Education
8. P. K. Sinha and Priti Sinha: Computer Fundamentals, BPB Publications.
9. Any other book covering the contents of the subject.

Note: Latest and additional good books may be suggested and added from time to time.

Semester: II
Session: 2024-25

Name of the Program	Multidisciplinary Courses (Single Major / Multidisciplinary Programs)	Program Code	-----
Name of the Course	Office Automation	Course Code	24CSCX02MD01
Hours/Week	2+0+2	Credits (L:T:P)	2:0:1
Max. Marks.	Theory: 50 (35+15) Practical: 25	Time of end term examination	3 Hours
Note: The examiner has to set nine questions in all by setting two questions from each Unit and Question No. 1 consisting of short-answer type questions covering the entire syllabus. Student will be required to attempt five questions in all by selecting one question from each Unit and Question No. 1, which is compulsory.			
Course Objectives: Office automation course enables 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.			
Course Outcomes: By the end of the course the students will be able to: CO1: Understand the fundamental concepts of window operating system. CO2: Understand and use of various functions of windows. CO3: Use word processing tool for text processing. CO4: Learn Data analysis tool for effective data analysis. CO5: Learn about Presentation tool for creating presentations.			
Unit – I			
MS-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, screensaver and appearance. Using windows accessories.			
Unit – II			
Documentation Using MS-Word: Introduction to word processing interface, Toolbars Creating & Editing Document, Formatting Document, Finding and replacing text, Format painter, Header and footer, Drop cap, Auto-text, Autocorrect, Spelling and Grammar Tool, Document Dictionary, Page Formatting, Bookmark, Previewing and printing document, Advance Features of MS-Word-Mail Merge, Macros and Tables			
Unit – III			
Electronic Spread Sheet using MS-Excel: Introduction to MS-Excel, Cell, cell address, Creating & Editing Worksheet, Formatting and Essential Operations, Moving and copying data in excel, Header and footer, Formulas and Functions, Charts, Cell referencing, Page setup, Macros, Advance features of MS-Excel-Pivot table & Pivot Chart, Linking and Consolidation, Database Management using Excel-Sorting, Filtering, Validation, What if analysis with Goal Seek.			
Unit – IV			
Presentation using MS-PowerPoint: Presentations, Creating, Manipulating & Enhancing Slides, Organizational Charts, Excel Charts, Word Art, Layering art Objects, Animations and Sounds, Inserting Animated Pictures or Accessing through Object, Inserting Recorded Sound Effect or In-Built Sound Effect.			
Suggested Readings: 1. Microsoft Office – Complete Reference – BPB Publication			

2. Russell A. Stultz: Learn Microsoft Office — BPB Publication
3. Courter, G Marquis: Microsoft Office 2000, Professional Edition. BPB.
4. Koers, D: Microsoft Office XP Fast and Easy. PHI.
5. Nelson, S L and Kelly, J: Office XP: The Complete Reference. Tata McGraw- Hill.
6. Any other book covering the contents of the subject.

Note: Latest and additional good books may be suggested and added from time to time.

List of Programs/Lab Assignments

1. Create a document in MS-Word introducing the word processing interface.
2. Write a step-by-step guide on how to find and replace text in MS-Word. Include examples and screenshots.
3. Create a document in MS-Word showcasing the use of Format Painter, Header and Footer, Drop Cap, AutoText, and Autocorrect features.
4. Write a tutorial document in MS-Word demonstrating the use of the Spelling and Grammar Tool, Document Dictionary, and Page Formatting options.
5. Create a document in MS-Word with bookmarks and demonstrate how to navigate through them. Include a section on previewing and printing documents.
6. Write a guide on using Mail Merge in MS-Word to create personalized letters. Include steps for merging data from an Excel sheet.
7. Create a document in MS-Word with macros to automate repetitive tasks. Explain how to record and execute macros.
8. Design a table in MS-Word to organize data and demonstrate sorting, filtering, and validation functionalities.
9. Create a budget spreadsheet in MS-Excel, including essential operations like creating & editing worksheets, formatting cells, and formulas.
10. Design a worksheet in MS-Excel with a header and footer. Demonstrate how to customize headers and footers for printing.
11. Create a spreadsheet in MS-Excel with various formulas and functions. Include examples of basic arithmetic operations and statistical functions.
12. Develop a chart in MS-Excel to visualize data. Include bar, line, and pie charts, and explain when to use each type.
13. Create a PowerPoint presentation with slides showcasing different slide manipulation features like transitions, animations, and organizational charts.
14. Design a presentation in MS-PowerPoint with Excel charts and WordArt. Demonstrate how to import and manipulate these objects.
15. Create a PowerPoint presentation with animated pictures and sound effects. Include slides with recorded sound effects and animated pictures accessed through objects.

Any other programs/lab problems assigned by the teachers.

Semester: III
Session: 2025-26

Name of the Program		Program Code	----
Name of the Course	Web Designing	Course Code	25CSCX03MD01
Hours/Week	2+0+2	Credits (L:T:P)	2:0:1
Max. Marks.	Theory: 50 (35+15) Practical: 25	Time of end term examination	3 Hours
Note: The examiner has to set nine questions in all by setting two questions from each Unit and Question No. 1 consisting of short-answer type questions covering the entire syllabus. Student will be required to attempt five questions in all by selecting one question from each Unit and Question No. 1, which is compulsory.			
Course Objective: The objective of this course is to acquire knowledge and Skills for creation of Web Sites. Also to acquire the knowledge regarding creation of Web applications using tools and techniques used in industry and how to design a basic web site using HTML & CSS to demonstrate responsive web design.			
Course Outcomes: By the end of the course the students will be able to: CO1: Understand the concept of Web Design. CO2: Learn about the concept of Web-casting techniques. CO3: Understand the concept of website planning. CO4: Get exposure of HTML. CO5: Gain good exposure of CSS.			
Unit-I			
Introduction: Concept of Web Design; Web Servers; Hypertext Transfer Protocol, URLs; Searching and Web-Casting Techniques; Search Engines and Search Tools, Domain Name System, Home Page, Web page and Website.			
Unit-II			
Web Publishing: Hosting your Site; Internet Service Provider; Phases of Planning and designing your Website; Steps for developing your Site; Choosing the contents;			
Web Development: Introduction to HTML; Hypertext and HTML; HTML Document Features; HTML command Tags; Headers; Text styles; Text Structuring; Text colors and Background; Formatting text.			
Unit-III			
List: Definition and types of Lists - Ordered and Unordered, Table Creation and Layouts. Images; Inserting Graphics; Frame Creation and Layouts; Creating Links; Working with Forms and Menus; Working with Radio Buttons and Check Boxes; Text Boxes; Page layouts.			
Unit-IV			
Cascading Style Sheets (CSS): Basic Concepts, Properties, Creation of Style Sheets. Common Tasks with CSS: Text, Fonts, Margins, Links, Tables, Colors. Marquee. Mouse Overs. Filters and Transitions. Adding Links. Adding Tables. Adding Forms. Adding Image and Sound. Use of CSS in HTML Documents, Linking and Embedding of CSS in HTML.			
Suggested Readings: 1. Raj Kamal: Internet and Web Technologies, Tata McGraw-Hill. 2. Ramesh Bangia: Multimedia and Web Technology, Firewall Media. 3. Thomas A. Powell: Web Design: The Complete Reference, 4/e, Tata McGraw-Hill 4. Wendy Willard: HTML Beginners Guide, Tata Mc Graw-Hill. 5. Deitel and Goldberg: Internet and World Wide Web, How to Program, PHI. 6. Any other book covering the contents of the subject.			
Note: Latest and additional good books may be suggested and added from time to time.			

List of Programs/Lab Assignments

1. Write HTML code to display your education details in a tabular format.
2. Write HTML code to display your CV on a web page.
3. Write HTML code to create a Home page having three links: About Us, Our Services and Contact Us. Create separate web pages for the three links.
4. Write HTML code to create a login form. On submitting the form, the user should get navigated to a profile page.
5. Write HTML code to create a Registration Form. On submitting the form, the user should be asked to login with new credentials.
6. Write HTML code to create your Institute website, Department Website and Tutorial website for specific subject.
7. Write HTML code to illustrate the usage of the following:
8. Create the following: Ordered List, Unordered List and Definition List
9. Write HTML code to create a frameset having header, navigation and content sections.
10. Write HTML code to demonstrate the usage of inline CSS.
11. Write HTML code to demonstrate the usage of internal CSS.
12. Write HTML code to demonstrate the usage of external CSS.
13. Write HTML program to create a webpage to show different art forms of India, with appropriate title on the title bar. Use different heading tags for the headings, and list them using ordered list.
14. Write HTML program to create sections in the document using appropriate tags and apply different color as background to them. Use internal hyperlinks to move to different points within the page.
15. Write HTML program to insert a picture on the webpage, giving description for the picture in a paragraph. Use properties of height, width, hspace, vspace and align, with different values.
16. Write HTML Program, to create a profile of 2 pages, the First page containing the applicant's picture with personal details using unordered lists, and the second containing Educational details using tables. Use hyperlinks to move to the next page.

Any other Programs/Lab Assignments given by the teachers.