



UNIVERSITY OF JAMMU

(NAAC ACCREDITED 'A' GRADE' UNIVERSITY)
Baba Sahib Ambedkar Road, Jammu-180006 (J&K)

Academic Section

Email: academicsectionju14@gmail.com

NOTIFICATION (22/Nov./Adp/69)

It is hereby notified for the information of all concerned that the Vice-Chancellor, in anticipation of the approval of the Academic Council, is pleased to authorize the adoption of the Syllabi and Courses of Studies in the subject of **Computer Applications of Semester Ist and IInd for Four Year Under Graduate Programme (FYUGP) under the Choice Based Credit System as per NEP-2020 (as given in the annexure)** for the examinations to be held in the years as per the details given below:

Subject	Semester	for the examination to be held in the years
Computer Application (B.A/B.Sc.)	Semester-I	December 2022, 2023 and 2024
	Semester-II	May 2023, 2024 and 2025

The Syllabi of the courses are available on the University website: www.jammuuniversity.ac.in

Sd/-
DEAN ACADEMIC AFFAIRS

No. F. Acd/II/22/9266 - 9305

Dated: 7-11-2022

Copy to:

1. Dean, Faculty of Mathematical Sciences
2. HOD/Convener, Board of Studies in Computer Science & IT
3. All members of the Board of Studies
4. C.A. to the Controller of Examinations
5. Director, Computer Centre, University of Jammu
6. Asst. Registrar (Conf. /Exams. UG)
7. Incharge University Website for necessary action please

Sumitasharma
7/11/22
Deputy Registrar (Academic)

AS
7/11/22

**B. A. / B. Sc. Honours
IN
COMPUTER APPLICATIONS**

SYLLABUS

*Four Year Undergraduate Programme
As per NEP 2020 guidelines
Under Choice based Credit System*

**FOR THE STUDENTS TO BE ADMITTED IN THE SESSIONS
2022-23, 2023-24, 2024-25**



UNIVERSITY OF JAMMU, JAMMU

Syllabus of B.A/B.Sc. Honours in Computer Applications

(Four Year Undergraduate Programme)

For the students to be admitted in the year 2022-23, 2023-24 and 2024-25

The B.A/B.Sc. Honours programme in Computer Application is a four-year undergraduate programme based on Semester System and consists of **eight** semesters. The student will opt Major and Minor courses from the same discipline. For minor course, any subject other than major available in the college shall be chosen from within same discipline. However, Multidisciplinary foundation courses are to be chosen from the disciplines other than that of Major and Minor courses.

COURSES OF STUDY

SEMESTER – I

S. No.	Course Type	Course No.	Course Title	Credits	Marks				Total Marks
					Theory		Practical/Tutorial		
					Mid Semester	End Exam	Assessment	Exam	
1	Major	UMJCAT101	Computer Fundamentals and Office Tools	4(3L+1P)	15	60	10	15	100
2	Minor	UMICAT102	Computer Fundamentals and Office Tools	4(3L+1P)	15	60	10	15	100
3	MD	UMDCAT103	Understanding Computers	3	15	60	NA	NA	75
4	SEC	USECAT104	Office Tools	2	10	40	NA	NA	50

Semester – II

S. No.	Course Type	Course No.	Course Title	Credits	Marks				Total Marks
					Theory		Practical/Tutorial		
					Mid Semester	End Exam	Assessment	Exam	
1	Major	UMJCAT201	Fundamentals of Internet	4(3L+1P)	15	60	10	15	100
2	Minor	UMICAT202	Fundamentals of Internet	4(3L+1P)	15	60	10	15	100
3	MD	UMDCAT203	Understanding Internet	3	15	60	NA	NA	75
4	SEC	USECAT204	Understanding e-Services	2	10	40	NA	NA	50

SCHEME OF EXAMINATION

Each course shall be comprised of Mid Semester Assessment Test and End-Semester Examination. The responsibility of conduct and evaluation of the Mid Semester Assessment test lies with the Course Coordinator. The End Semester Examination shall be conducted by the University and question papers shall be set by the Controller of Examinations. The Mid Semester Assessment marks awarded to the students in each course shall be displayed on the notice board well in advance, at least one week before the commencement of End Semester examination. The 03/04 and 02 credits paper shall have 04 and 03 units, respectively.

Practicals/Tutorials as applicable in a course (Major/Minor) are extension of the theory programme in an inbuilt (3+1) credits course i.e. 03 credits of theory and 01 credit of practical/tutorial. However, 02 credits major course of 5th semester will have only theory component. Each four credits paper will have 75 Marks for theory and 25 Marks for practical/tutorial. The break-up for 75 Marks for theory paper shall contain 15 Marks for Mid Semester Assessment Test and 60 Marks for End semester Examination. There will be continuous assessment of 10 Marks and final examination of 15 Marks for Practical/Tutorial component in each course.



The 03 credits paper shall be of 75 Marks consisting of 60 Marks for external examination and 15 Marks for Mid Semester Assessment test. All 02 credits courses shall be of 50 marks comprising 40 marks for External examination and 10 Marks for Mid Semester Assessment Test.

THEORY	DESCRIPTION	TIME ALLOTTED	MARKS
	Mid Semester Assessment Test shall be conducted by the course coordinator after completion of the syllabus up to 50% and the pattern of the examination shall be decided by the respective Board of Studies.	1½ hours	15 Marks for 03/04 Credits 10 Marks for 02 Credits
	End Semester University Examination shall be conducted for entire syllabus. The break up is as under: 1. 03 and 04 credits papers Section A shall consist Four (4) short answer questions having one question from each unit. The students are required to attempt all questions. Each question shall be of 3 Marks. Section B shall consist Eight (8) long answer questions having two questions from each unit. The students are required to attempt one question from each unit. Each question shall be of 12 Marks.	03 hours for 03/04 credits	60 Marks for 03/04 Credits
	2. 02 credits papers Section A shall consist Four (4) short answer questions having one question from each unit. The students are required to attempt all questions. Each question shall be of 2½ Marks. Section B shall consist Six (6) long answer questions having two questions from each unit. The students are required to attempt one question from each unit. Each question shall be of 10 Marks.	2½ hours for 02 credits	40 Marks for 02 Credits
	Note: Convener, BOS, can make minor modification in the scheme Skill course, if required. However, it must be clearly reflected in the syllabus.		
PRACTICAL/TUTORIAL			
i.	Daily evaluation of practical's/tutorials/Viva voce/Records etc.		10 Marks for Continuous assessment
ii.	Final Examination		15 Marks for Final examination
	Note: The BOS shall device the mechanism of Final examination.		



Instructions for paper setter**1. 3 / 4 Credits Paper**

Total marks: 60

Time allotted: 3 hours

The question paper will be divided into the following two sections. No question shall be repeated in the question paper.

Section A

Total of Four (4) short answer questions (one from each unit) shall be set. The candidates are required to attempt all questions. Each question shall be of 3 Marks.

(4 x 3 = 12 marks)

Section B

Total of Eight (8) long answer questions (two from each unit) shall be set. The candidates are required to attempt four questions. Each question shall be of 12 Marks.

(4 x 12 = 48 marks)

Note: The paper setter shall ensure that the questions are uniformly distributed over entire syllabus.

2. 2 Credits Paper

Total marks: 40

Time allotted: 2½ hours

The question paper will be divided into the following two sections. No question shall be repeated in the question paper.

Section A

Total of Four (4) short answer questions (at least one from each unit) shall be set. The candidates are required to attempt all questions. Each question shall be of 2½ Marks.

(4 x 2½ = 10 marks)

Section B

Total of Six (6) long answer questions (two from each unit) shall be set. The candidates are required to attempt three questions. Each question shall be of 10 Marks.

(3 x 10 = 30 marks)

Note: The paper setter shall ensure that the questions are uniformly distributed over entire syllabus.



**B. A. / B. Sc. Honours
IN
COMPUTER APPLICATIONS**

Semester wise Course details

*Four Year Undergraduate Programme
As per NEP 2020 guidelines
Under Choice based Credit System*

FOR THE STUDENTS TO BE ADMITTED IN THE SESSIONS 2022-23, 2023-24, 2024-25



CA (Arts and Science) - FIRST SEMESTER

Course: Major
 Course Credits: (L-P-T)
 (3-1-0)
 Total marks: 100

Course Title: Computer Fundamentals and Office Tools
 Course Code: UMJCAT101
 Mid Semester assessment: 15 Marks of 1.5 hours duration
 End Semester assessment: 60 Marks of 3.0 hours duration
 Practical: 25 Marks

For examinations to be held in Dec 2022, 2023, and 2024

Course objectives & learning outcomes:

1. To learn the basics concepts of computers.
2. To learn the mechanisms of office tools.
3. To gain knowledge on software and applications.
4. To brief the students about DOS & Windows.

UNIT - I

Computer and its Characteristics, Applications of Computer, Digital and Analog Computer, Generation of Computer, Block Diagram of a Computer, Computer Types: Mainframe Computer, Super Computer, Mini Computer. Memory hierarchy: Registers, Cache Memory, Primary Memory (RAM, ROM, EEPROM, UVPRM), Storage Units(Bit, Byte, KB, MB etc.). Secondary Storage Devices and its Storage Mechanism, Input and Output Devices: Keyboard, Point and Draw Devices, Data Scanning Devices, Voice Recognition Device, Digitizers, Monitor, Printer and its Types, Projector. 15 Hours

UNIT - II

Software and its Types (System Software, Application Software, Firmware Software), Operating System and its functions, Types of OS :Single user, Multi user, Multitasking, Batch OS, Real Time OS, Computer Languages and its types (Machine Language, Assembly Language, High Level Language: Merits and Demerits of Computer Languages), Translators: Compiler, Linker, Interpreter, Loader, Computer Virus and its types (Trojan, Malware, Spyware etc.), Antivirus Software. 15 Hours

UNIT - III

Number System: Decimal, Binary, Octal, Hexadecimal, Conversion of One Number System to Another, Arithmetic Operations: Addition, Subtraction, Multiplication. Complement of Numbers, Complement methods: r's and r-1 Complement, ASCII Code, EBCDIC, BCD Numbers. 15 Hours

UNIT - IV

Anatomy of Window: Title Bar, Menu Bar, Tool Bar, Scroll Bars, Document Area, and Status Bar.

Desktop Elements: Icons, My Computer, Recycle Bin, Taskbar, My Documents.

Control panel ,Disk Defragmentation, DOS, Evolution of DOS, Internal Commands : CLS, Ver, COPY, Volume, Date, Time, MD, CD, RD, Copy, Del, Ren, Move etc., External Commands : CHKDSK, FORMAT, Xcopy , Attrib, Defrag etc. 15 Hours

Suggested readings/ references:

1. P.K Sinha & Priti Sinha, "Computer Fundamentals", BPB Publications.
2. Alexix Leon, Mathewes Leon, "Fundamentals of Information Technology", Leon Press.
3. Suresh K. Basandra, "Computer Systems Today", Galgotia Publications.
4. V. Rajaraman, "Fundamentals of Computers", PHI Learning Pvt. Ltd.
5. Peter Norton, "Introduction to Computers", Tata McGraw Hill.
6. Joyce Coax , Joan Preppernau, Steve Lambert and Curtis Frye, "Microsoft Office System step by step", Microsoft Press, 2007.
7. R.K. Taxali, "PC Software for Windows", McGraw Hill.

CA (Arts and Science) - FIRST SEMESTER

Course: Major
Course Credits: (L-P-T)
(3-1-0)
Total marks: 100

Course Title: Computer Fundamentals and Office Tools
Course Code: UMJCAT101
Mid Semester assessment: 15 Marks of 1.5 hours duration
End Semester assessment: 60 Marks of 3.0 hours duration
Practical: 25 Marks

For examinations to be held in Dec 2022, 2023, and 2024

NOTE FOR PAPER SETTERS FOR EXAMINATIONS -

The question paper will be divided into the following two sections. No question will be repeated in the question paper.

Section A shall consist of Four (4) short answer questions having one question from each unit. The students are required to attempt all questions. Each question shall be of 3 Marks.

(4 x 3 = 12 marks)

Section B shall consist of Eight (8) long answer questions having two questions from each unit. The students are required to attempt one question from each unit. Each question shall be of 12 Marks.

(4 x 12 = 48 marks)

Note: -The paper setter shall ensure that the questions are uniformly distributed over entire syllabus.

Practical/ tutorial Evaluation

Daily evaluation of practical's/tutorials/Viva voce/Records etc.

10 marks

Final Examination

15 Marks

Pattern for external practical examination

Practical file	5 Marks
Written examination	5 Marks
Viva-Voce	5 Marks
Total	15 Marks

Pattern for external tutorial examination

Assignment file	10 Marks
Viva-Voce	5 Marks
Total	15 Marks



CA (Arts and Science) - FIRST SEMESTER

Course: Minor
 Course Credits: (L-P-T)
 (3-1-0)
 Total marks: 100

Course Title: Computer Fundamentals and Office Tools
 Course Code: UMICAT102
 Mid Semester assessment: 15 Marks of 1.5 hours duration
 End Semester assessment: 60 Marks of 3.0 hours duration
 Practical: 25 Marks

For examinations to be held in Dec 2022, 2023, and 2024

Course objectives & learning outcomes:

1. To learn the basics of computers.
2. To learn the mechanisms of office tools.
3. To gain knowledge on software and applications.
4. To brief the students about DOS & Windows.

UNIT - I

Computer and its Characteristics, Applications of Computer, Digital and Analog Computer, Generation of Computer, Block Diagram of a Computer, Computer Types: Mainframe Computer, Super Computer, Mini Computer. Memory hierarchy: Registers, Cache Memory, Primary Memory (RAM, ROM, EEPROM, UVPRM), Storage Units(Bit, Byte, KB, MB etc.). Secondary Storage Devices and its Storage Mechanism, Input and Output Devices: Keyboard, Point and Draw Devices, Data Scanning Devices, Voice Recognition Device, Digitizers, Monitor, Printer and its Types, Projector. 15 Hours

UNIT - II

Software and its Types (System Software, Application Software, Firmware Software), Operating System and its functions, Types of OS :Single user, Multi user, Multitasking, Batch OS, Real Time OS, Computer Languages and its types (Machine Language, Assembly Language, High Level Language: Merits and Demerits of Computer Languages), Translators: Compiler, Linker, Interpreter, Loader, Computer Virus and its types (Trojan, Malware, Spyware etc.), Antivirus Software. 15 Hours

UNIT - III

Number System: Decimal, Binary, Octal, Hexadecimal, Conversion of One Number System to Another, Arithmetic Operations: Addition, Subtraction, Multiplication. Complement of Numbers, Complement methods: r's and r-1 Complement, ASCII Code, EBCDIC, BCD Numbers. 15 Hours

UNIT - IV

Anatomy of Window: Title Bar, Menu Bar, Tool Bar, Scroll Bars, Document Area, and Status Bar.
 Desktop Elements: Icons, My Computer, Recycle Bin, Taskbar, My Documents.
 Control panel ,Disk Defragmentation, DOS, Evolution of DOS, Internal Commands : CLS, Ver, COPY, Volume, Date, Time, MD, CD, RD, Copy, Del, Ren, Move etc., External Commands : CHKDSK, FORMAT, Xcopy , Attrib, Defrag etc. 15 Hours

Suggested readings/ references:

1. P.K Sinha & Priti Sinha, "Computer Fundamentals", BPB Publications.
2. Alexix Leon, Mathewes Leon, "Fundamentals of Information Technology", Leon Press.
3. Suresh K. Basandra, "Computer Systems Today", Galgotia Publications.
4. V. Rajaraman, "Fundamentals of Computers", PHI Learning Pvt. Ltd.
5. Peter Nortan, "Introduction to Computers", Tata Mcgraw Hill.
6. Joyce Coax , Joan Preppernau,,Steve Lambert and Curtis Frye, "Microsoft Office System step by step", Microsoft Press, 2007.
7. R.K. Taxali, "PC Software for Windows", McGraw Hill.

CA (Arts and Science) - FIRST SEMESTER

Course: Minor
Course Credits: (L-P-T)
(3-1-0)
Total marks: 100

Course Title: Computer Fundamentals and Office Tools
Course Code: UMICAT102
Mid Semester assessment: 15 Marks of 1.5 hours duration
End Semester assessment: 60 Marks of 3.0 hours duration
Practical: 25 Marks

For examinations to be held in Dec 2022, 2023, and 2024

NOTE FOR PAPER SETTERS FOR EXAMINATIONS -

The question paper will be divided into the following two sections. No question will be repeated in the question paper.

Section A shall consist Four (4) short answer questions having one question from each unit. The students are required to attempt all questions. Each question shall be of 3 Marks.

(4 x 3 = 12 marks)

Section B shall consist Eight (8) long answer questions having two questions from each unit. The students are required to attempt one question from each unit. Each question shall be of 12 Marks.

(4 x 12 = 48 marks)

Note: -The paper setter shall ensure that the questions are uniformly distributed over entire syllabus.

Practical/ tutorial Evaluation

Daily evaluation of practical's/tutorials/Viva voce/Records etc.

10 marks

Final Examination

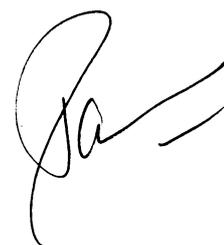
15 Marks

Pattern for external practical examination

Practical file	5 Marks
Written examination	5 Marks
Viva-Voce	5 Marks
Total	15 Marks

Pattern for external tutorial examination

Assignment file	10 Marks
Viva-Voce	5 Marks
Total	15 Marks



CA (Arts and Science) - FIRST SEMESTER

Course:	Multidisciplinary Foundation Course (MD)	Course Title: Understanding Computers.
Course Credits:	(L-P-T) (3-0-0)	Course Code: UMDCAT103
Total marks:	75	Mid Semester assessment: 15 Marks of 1.5 hours duration
		End Semester assessment: 60 Marks of 3.0 hours duration

For examinations to be held in Dec 2022, 2023, and 2024

Course objectives & learning outcomes:

1. To learn the basics of Computer Fundamentals.
2. To understand hardware and software.
3. To gain knowledge of operating system.
4. To brief the students about number system.

UNIT - I

Introduction to Computer, History of Computer, Features of Computer, Uses of Computers, Generations of Computer, Digital, Analog, Hybrid Computer, Computer Memory and its Types, Primary memory (RAM, ROM, PROM, EEPROM), Storage Units (Bit, Byte, KB, MB, GB, TB), Secondary Storage Devices: Hard Disks, Optical Disks, Compact Disks, Zip Drive, Flash Drives, Input Devices (Keyboard, Mouse, Joystick, Scanner), and Output Devices Monitor, Plotter, Printer and its Types. 10 Hours

UNIT - II

Software and Hardware, Type of Software (System Software, Application Software, Firmware Software), Computer Languages and its Types (Machine Language, Assembly Language, High Level Language: Advantages and Disadvantages of Computer Languages), Translators: Interpreter, Compiler, Linker, Loader, Computer Viruses (Trojan, Malware, Spyware etc.), Antivirus Software. 10 Hours

UNIT - III

Anatomy of Window: Title Bar, Menu Bar, Tool Bar, Scroll Bars, Document Area, and Status Bar.
Desktop Elements: Icons, My Computer, Recycle Bin, Taskbar, My Documents, Anatomy of Window: Title Bar, Menu Bar, Tool Bar, Scroll Bars, Document Area, and Status Bar.
Control panel, Disk Defragmentation, DOS, Evolution of DOS, Internal Commands: CLS, Ver, COPY, Volume, Date, Time, MD, CD, RD, Copy, Del, Ren, Move, Path External Commands: CHKDSK, FORMAT, Xcopy, Attrib, Defrag etc. 10 Hours

UNIT - IV

Computer Number System: Decimal Number, Binary Number, Octal Number, Hexadecimal Number, Arithmetic Operations (Addition, Subtraction, Multiplication) on Binary Number, Conversion of one Number System to another. r's Complement and r-1' Complement, Data Representation. 15 Hours

Suggested readings/ references:

1. P.K Sinha & Priti Sinha, "Computer Fundamentals", BPB Publications.
2. Alexix Leon, Mathewes Leon, "Fundamentals of Information Technology", Leon Press.
3. Suresh K. Basandra, "Computer Systems Today", Galgotia Publications.
4. V. Rajaraman, "Fundamentals of Computers", PHI Learning Pvt. Ltd.
5. Peter Norton, "Introduction to Computers", Tata McGraw Hill.
6. Joyce Coax, Joan Preppernau, Steve Lambert and Curtis Frye, "Microsoft Office System step by step", Microsoft Press, 2007.
7. R.K. Taxali, "PC Software for Windows", McGraw Hill.

CA (Arts and Science) - FIRST SEMESTER

Course:	Multidisciplinary Foundation Course (MD)	Course Title: Understanding Computers.
Course Credits:	(L-P-T) (3-0-0)	Course Code: UMDCAT103
Total marks:	75	Mid Semester assessment: 15 Marks of 1.5 hours duration End Semester assessment: 60 Marks of 3.0 hours duration

For examinations to be held in Dec 2022, 2023, and 2024

NOTE FOR PAPER SETTERS FOR EXAMINATIONS -

The question paper will be divided into the following two sections. No question will be repeated in the question paper.

Section A shall consist Four (4) short answer questions having one question from each unit. The students are required to attempt all questions. Each question shall be of 3 Marks.

(4 x 3 = 12 marks)

Section B shall consist Eight (8) long answer questions having two questions from each unit. The students are required to attempt one question from each unit. Each question shall be of 12 Marks.

(4 x 12 = 48 marks)

Note: -The paper setter shall ensure that the questions are uniformly distributed over entire syllabus.



CA (Arts and Science) - FIRST SEMESTER

Course: Skill Enhancement Course (SEC)
Course Credits: (L-P-T)
(2-0-0)
Total marks: 50

Course Title: Office Tools
Course Code: USECAT104
Mid Semester assessment: 10 Marks of 1.5 hours duration
End Semester assessment: 40 Marks of 2.5 hours duration

For examinations to be held in Dec 2022, 2023, and 2024

Course objectives & learning outcomes:

1. To provide working knowledge of word processing software.
2. To impart the skill to work with features of a spreadsheet software.
3. To develop the ability to prepare PowerPoint presentation.

UNIT -I

Word: Text Editor: Types- Line Editor, Word Editor, Page editor and their features. Entering text: selecting, editing, inserting, moving, copying, deleting, undo, redo, spell check. Formatting document: Changing Font type, applying effects, changing color, case, alignment, applying Superscript, Subscript, creating bulleted and Numbered List, Applying Border and Shading, Applying Drop Cap Effect, Header, Footer. Using Clip Art, Word Art. Working with Table: Creating, Entering Data, Modifying, Formatting, Inserting Picture. Copying Formatting to another Selection, Page Formatting, Setting Page Properties, Previewing and Printing a Document, Using Mail Merge. 10 Hours

UNIT -II

Excel: Introduction to Row, Cell, Workbook, Worksheet. Components and features of a Worksheet, Moving Around the Spreadsheet, Entering Data, Inserting and Deleting Cells, Columns and Rows, Changing Row Height and Column Width, Types of Data, Performing Calculations, Using Formula, Sorting Data, Custom Sorting, Charts, Filters. AutoFill and Flash Fill, Managing Worksheets, Saving Workbook. 10 Hours

UNIT-III

Powerpoint: Starting Powerpoint, Components, Creating and Saving Presentations, Opening, Closing, Running and Exiting a Presentation, Adding and deleting slides to a Presentation, Formatting Text in a slide, Inserting Objects in a Slide, Rotating and Resizing a Picture, Shape, Text or Object, Transitions, Animations and Views. 10 Hours

Suggested readings/ references:

1. Joe Habraken, "Microsoft Office Inside Out (Office 2021 and Microsoft 365)", Microsoft Press.
2. Joan Lambert, Curtis Frye, "Microsoft Office 2016 Step by Step", Microsoft Press.
3. Linda Foulkes, "Learn Microsoft Office 2019: A Comprehensive Guide to Getting Started with Word, PowerPoint, Excel, Access, and Outlook", Packt Publishing Limited.



CA (Arts and Science) - FIRST SEMESTER

Course: Skill Enhancement Course (SEC)
Course Credits: (L-P-T)
(2-0-0)
Total marks: 50

Course Title: Office Tools
Course Code: USECAT104
Mid Semester assessment: 10 Marks of 1.5 hours duration
End Semester assessment: 40 Marks of 2.5 hours duration

For examinations to be held in Dec 2022, 2023, and 2024

NOTE FOR PAPER SETTERS FOR EXAMINATIONS -

The question paper will be divided into the following two sections. No question shall be repeated in the question paper.

Section A shall consist Four (4) short answer questions (at least one from each unit). The students are required to attempt all questions. Each question shall be of 2½ Marks.

(4 x 2½ = 10 marks)

Section B shall consist Six (6) long answer questions (two from each unit). The students are required to attempt three questions. Each question shall be of 10 Marks.

(3 x 10 = 30 marks)

Note: The paper setter shall ensure that the questions are uniformly distributed over entire syllabus.



CA (Arts and Science) - SECOND SEMESTER

Course: Major
 Course Credits: (L-P-T)
 (3-1-0)
 Total marks: 100

Course Title: Fundamentals of Internet
 Course Code: UMJCAT201
 Mid Semester assessment: 15 Marks of 1.5 hours duration
 End Semester assessment: 60 Marks of 3.0 hours duration
 Practical: 25 Marks

For examinations to be held in May 2023, 2024 and 2025

Course objectives & learning outcomes:

1. To learn the fundamentals of Internet.
2. To understand basic web fundamentals.
3. To gain knowledge on network protocols and their applications.
4. To brief the students about web designing using HTML.

UNIT - I

Computer Networks: Definition, Goals, Advantages and Disadvantages, Categories of Network, Topologies, Data Communication and its Components (Sender, Receiver, Protocol, Message, Medium), Transmission modes (Simplex, Half Duplex, Full Duplex), Transmission medium: Co-axial, Twisted Pair and Fiber Optic Cables,, Radio waves, Microwaves, Satellites, Networking devices (Modem, Switch, Hub, Router, Bridge, Gateway).

15 Hours

UNIT - II

Internet: Definition and features, Applications, History, Advantages and Disadvantages. Web Terminologies: Web Browser, Types of browsers, Web address, Emergence and evolution of World Wide Web (WWW), Web Site, Web page (Static and Dynamic), Web Client, Web Server, URL, DNS, Search Engines.

15 Hours

UNIT - III

IP Address, Types of IP Address (IPv4, IPv6), Classes of IP Addresses, .Internet Connection Protocols (HTTP/HTTPS, FTP, SMTP, POP3).

Introduction to HTML, Structure of HTML Program, HTML tags, HTML Basic Tags , HTML Formatting Tags ,HTML Color Coding, Div and Span Tag for grouping,HTML List: Unordered, Ordered, Definition; HTML image and Image mapping.

15 Hours

UNIT - IV

HTML table, HTML Table tags :TABLE, TR,TH,TD etc.; Table tag attributes :table border ,bgcolor , align, Cell Spacing and Cell Padding etc.; Colspan and Rowspan, HTML frame ,frameset tag, frame tag attributes, HTML iframe tag and its attributes;

HTML Form, form tag attributes: action, method, name; Form Controls: Text Input box, Checkboxes, Radio Box, Select Box , File Select box ,Hidden Controls, Clickable Buttons, Submit and Reset Button.

15 Hours

Suggested Readings:

1. Andrew.S. Tannenbaum, "Computer Networks", Pearson.
2. Williams Stallings, "Data and Computer Communication", Pearson.
3. Forouzan, "Data Communication and Networking", McGraw Hill Professional Publication.
4. Douglas E. Comer, "The Internet Book", Prentice Hall.

CA (Arts and Science) - SECOND SEMESTER

Course: Major
 Course Credits: (L-P-T)
 (3-1-0)
 Total marks: 100

Course Title: Fundamentals of Internet
 Course Code: UMJCAT201
 Mid Semester assessment: 15 Marks of 1.5 hours duration
 End Semester assessment: 60 Marks of 3.0 hours duration
 Practical: 25 Marks

For examinations to be held in May 2023, 2024 and 2025

NOTE FOR PAPER SETTERS FOR EXAMINATIONS -

The question paper will be divided into the following two sections. No question will be repeated in the question paper.

Section A shall consists Four (4) short answer questions having one question from each unit. The students are required to attempt all questions. Each question shall be of 3 Marks.

(4 x 3 = 12 marks)

Section B shall consists Eight (8) long answer questions having two questions from each unit. The students are required to attempt one question from each unit. Each question shall be of 12 Marks.

(4 x 12 = 48 marks)

Note: -The paper setter shall ensure that the questions are uniformly distributed over entire syllabus.

Practical/tutorial Evaluation

Daily evaluation of practical's/tutorials/Viva voce/Records etc.

10 marks

Final Examination

15 Marks

Pattern for external practical examination

Practical file	5 Marks
Written examination	5 Marks
Viva-Voce	5 Marks
Total	15 Marks

Pattern for external tutorial examination

Assignment file	10 Marks
Viva-Voce	5 Marks
Total	15 Marks

CA (Arts and Science) - SECOND SEMESTER

Course: Minor
 Course Credits: (L-P-T)
 (3-1-0)
 Total marks: 100

Course Title: Fundamentals of Internet
 Course Code: UMICAT202
 Mid Semester assessment: 15 Marks of 1.5 hours duration
 End Semester assessment: 60 Marks of 3.0 hours duration
 Practical: 25 Marks

For examinations to be held in May 2023, 2024 and 2025

Course objectives & learning outcomes:

1. To learn the fundamentals of Internet.
2. To understand basic web fundamentals.
3. To gain knowledge on network protocols and their applications.
4. To brief the students about web designing using HTML.

UNIT - I

Computer Networks: Definition, Goals, Advantages and Disadvantages, Categories of Network, Topologies, Data Communication and its Components (Sender, Receiver, Protocol, Message, Medium), Transmission modes (Simplex, Half Duplex, Full Duplex), Transmission medium: Co-axial, Twisted Pair and Fiber Optic Cables,, Radio waves, Microwaves, Satellites, Networking devices (Modem, Switch, Hub, Router, Bridge, Gateway).

15 Hours

UNIT - II

Internet: Definition and features, Applications, History, Advantages and Disadvantages. Web Terminologies: Web Browser, Types of browsers, Web address, Emergence and evolution of World Wide Web (WWW), Web Site, Web page (Static and Dynamic), Web Client, Web Server, URL, DNS, Search Engines.

15 Hours

UNIT - III

IP Address, Types of IP Address (IPv4, IPv6), Classes of IP Addresses, .Internet Connection Protocols (HTTP/HTTps, FTP, SMTP, POP3).

Introduction to HTML, Structure of HTML Program, HTML tags, HTML Basic Tags , HTML Formatting Tags ,HTML Color Coding, Div and Span Tag for grouping,HTML List: Unordered, Ordered, Definition; HTML image and Image mapping.

15 Hours

UNIT - IV

HTML table, HTML Table tags :TABLE, TR,TH,TD etc.; Table tag attributes :table border ,bgcolor , align, Cell Spacing and Cell Padding etc.; Colspan and Rowspan, HTML frame ,frameset tag, frame tag attributes, HTML iframe tag and its attributes;

HTML Form, form tag attributes: action, method, name; Form Controls: Text Input box, Checkboxes, Radio Box, Select Box ,File Select box ,Hidden Controls, Clickable Buttons, Submit and Reset Button.

15 Hours

Suggested Readings:-

1. Andrew.S. Tannenbaum, "Computer Networks", Pearson.
2. Williams Stallings, "Data and Computer Communication", Pearson.
3. Forouzan, "Data Communication and Networking", McGraw Hill Professional Publication.
4. Douglas E. Comer, "The Internet Book", Prentice Hall.

CA (Arts and Science) - SECOND SEMESTER

Course: Minor
Course Credits: (L-P-T)
(3-1-0)
Total marks: 100

Course Title: Fundamentals of Internet
Course Code: UMICAT202
Mid Semester assessment: 15 Marks of 1.5 hours duration
End Semester assessment: 60 Marks of 3.0 hours duration
Practical: 25 Marks

For examinations to be held in May 2023, 2024 and 2025

NOTE FOR PAPER SETTERS FOR EXAMINATIONS -

The question paper will be divided into the following two sections. No question will be repeated in the question paper.

Section A shall consists Four (4) short answer questions having one question from each unit. The students are required to attempt all questions. Each question shall be of 3 Marks.

(4 x 3 = 12 marks)

Section B shall consists Eight (8) long answer questions having two questions from each unit. The students are required to attempt one question from each unit. Each question shall be of 12 Marks.

(4 x 12 = 48 marks)

Note: -The paper setter shall ensure that the questions are uniformly distributed over entire syllabus.

Practical/ tutorial Evaluation

Daily evaluation of practical's/tutorials/Viva voce/Records etc.

10 marks

Final Examination

15 Marks

Pattern for external practical examination

Practical file	5 Marks
Written examination	5 Marks
Viva-Voce	5 Marks
Total	15 Marks

Pattern for external tutorial examination

Assignment file	10 Marks
Viva-Voce	5 Marks
Total	15 Marks



CA (Arts and Science)–SECOND SEMESTER

Course:	Multidisciplinary Foundation Course (MD)	Course Title: Understanding Internet
Course Credits:	(L-P-T) (3-0-0)	Course Code: UMDCAT203
Total marks:	75	Mid Semester assessment: 15 Marks of 1.5 hours duration End Semester assessment: 60 Marks of 3.0 hours duration

For examinations to be held in May 2023, 2024 and 2025

Course objectives & learning outcomes:

1. To learn the fundamentals of Internet.
2. To understand basic web fundamentals.
3. To gain knowledge on network protocols and their applications.
4. To brief the students about various network devices and network security.

UNIT - I

Computer Networks: Definition, Goals, Advantages and Disadvantages, Types (LAN, MAN, WAN), Topologies, Data Communication and its Components (Sender, Receiver, Protocol, Message, Medium), Transmission Medium (Wired and Wireless): Co-axial cables, Twisted pair, Optical Fiber, Electromagnetic Spectrum, Radio waves, Microwaves, Satellites, Transmission Impairments and attenuation,, Transmission modes (Simplex, Half Duplex, Full Duplex), Networking devices (Modem, Switch, Hub, Router, Bridge, Gateway).

10 Hours

UNIT - II

Internet: Definition and Features, Applications, History, Advantages and Disadvantages. Web Terminologies: Web Browser, Types of browsers, Web address, World Wide Web (WWW) and its architecture, Web Site, Web Page (Static and Dynamic), Web Client, Web Server, URL, DNS, Search Engines.

10 Hours

UNIT - III

IP Addresses, Types of IP Address (IPv4, IPv6), Classes of IP Addresses, Internet Service Provider, Internet Connection Protocols (HTTP/HTTps, FTP, SMTP, POP3). E-mail basics: Opening E-mail account, Creating and Sending E-mail messages, Replying E-mail Messages, Forwarding E-mail messages, Searching E-mail, Advantages and Limitations of E-mail, E-mail Addressing: Header, Body, Attachments, Signature, Carbon Copy, Blind Carbon Copy, Mailbox (Inbox and Outbox), Handling SPAM.

10 Hours

UNIT - IV

Basics of E-Commerce and Digital Marketing, Benefits and challenges of E-Commerce. E-Governance: Introduction, Advantages, Various E-Governance Initiatives. Online Transactions Systems and its Types (UPI, Internet Banking, NEFT/RTGS and IMPS), Audio and Video Conferencing, Social Networks, Advantages and Disadvantages of Social Networks, Short Range Connectivity Methods (Wi-Fi, Bluetooth, Hotspot), File Uploading, File Downloading, Internet Ethics, NETIQUETTES.

10 Hours

Suggested Readings:

1. Andrew.S. Tannenbaum, "Computer Networks", Pearson.
2. Williams Stallings, "Data and Computer Communication", Pearson.
3. Forouzan, "Data Communication and Networking", McGraw Hill Professional Publication.
4. Douglas E. Comer, "The Internet Book", Prentice Hall.

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For examinations to be held in May 2023, 2024 and 2025

NOTE FOR PAPER SETTERS FOR EXAMINATIONS -

The question paper will be divided into the following two sections. No question will be repeated in the question paper.

Section A shall consists Four (4) short answer questions having one question from each unit. The students are required to attempt all questions. Each question shall be of 3 Marks.

(4 x 3 = 12 marks)

Section B shall consists Eight (8) long answer questions having two questions from each unit. The students are required to attempt one question from each unit. Each question shall be of 12 Marks.

(4 x 12 = 48 marks)

Note: -The paper setter shall ensure that the questions are uniformly distributed over entire syllabus.



CA (Arts and Science) - SECOND SEMESTER

Course: Skill Enhancement Course (SEC)
 Course Credits: (L-P-T)
 (2-0-0)
 Total marks: 50

Course Title: Understanding e-Services
 Course Code: USECAT204
 Mid Semester assessment: 10 Marks of 1.5 hours duration
 End Semester assessment: 40 Marks of 2.5 hours duration

For examinations to be held in May 2023, 2024 and 2025

Course objectives & learning outcomes:

1. To provide working knowledge of word processing software.
2. To impart the skill to work with features of a spreadsheet software.
3. To develop the ability to prepare PowerPoint presentation.

UNIT - I

Web Security

Malware and its types, Viruses ,Worms Spyware ,Trojan horse ,Logic Bombs ,Ransomware , Key loggers , Adware, Spyware

Cyber threats and its types : Denial of Service ,Man in the Middle ,Phishing ,SQL Injection , Password Attacks, cyber stalking etc.

Protection against Cyber threats, identity protection, proper usage of passwords, privacy, confidentiality of information, Anti Virus, firewall, reporting cybercrime.

10 Hours

UNIT - II

Electronic Mail , Instant Messaging and Collaboration

Basics of E-mail: What is an Electronic Mail, Mailbox: Inbox and Outbox, Creating and Sending a new E-mail, attachment , difference between Bcc & Cc , Forwarding an E-mail message, Replying an E mail Message, Sorting and Searching emails, Spam mail, Draft mail, trash,E-mail Filter .

Instant Messaging and Collaboration: Using Instant messaging, Instant messaging providers, Best Practices for Instant Messaging , Netiquettes;

Google forms: Creation , Sharing ,Setting ,Managing responses, Google sheets.

10 Hours

UNIT - III

E-Governance Services and Financial Literacy

Definition of e-Governance, Interactions in e-Governance: Government to Government, Government to Citizen, Government to Business, Government to Employee, Advantages of e-Governance, Various e-Governance Initiatives, Using various E-governance services like Dig locker, Aadhar,Parivahan,GEM etc

E-payment system, Types of e-payment system: UPI [Unified Payment Interface] ,AEPS [Aadhaar Enabled Payment System] ,USSD[Unstructured Supplementary Service Data] ,Card [Credit / Debit], eWallet ,PoS [Point of Sale] , Internet Banking : National Electronic Fund Transfer (NEFT) ,Real Time Gross Settlement (RTGS) Immediate Payment Service (IMPS),Secured Online Payment methods.

10 Hours

Suggested Readings:

1. Roberta Bragg, Mark Rhodes-Ousley, Keith Strassberg, "Network Security: The Complete Reference", McGraw Hill Education.
2. E Balagurusamy, "Fundamentals of Computers", Tata McGraw Hill.
3. Behrouz A. Forouzan, "Data Communication and Networking", McGraw Hill Education.
4. P. Kumar, A.Tomar, and R. Sharmila, "Emerging Technologies in Computing: Theory, Practice, and Advances", 1st Edition, 2021.
5. Peter Norton, "Introduction to Computers", Tata McGraw Hill.
6. K. C. Laudon, & C.G. Traver, "E-commerce", MA: Pearson, 2013.

CA (Arts and Science) - SECOND SEMESTER

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Course Credits: (L-P-T)
(2-0-0)
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Course Title: Understanding e-Services
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End Semester assessment: 40 Marks of 2.5 hours duration

For examinations to be held in May 2023, 2024 and 2025

NOTE FOR PAPER SETTERS FOR EXAMINATIONS -

The question paper will be divided into the following two sections. No question shall be repeated in the question paper.

Section A shall consist Four (4) short answer questions (at least one from each unit). The students are required to attempt all questions. Each question shall be of 2½ Marks.

(4 x 2½ = 10 marks)

Section B shall consist Six (6) long answer questions (two from each unit). The students are required to attempt three questions. Each question shall be of 10 Marks.

(3 x 10 = 30 marks)

Note: The paper setter shall ensure that the questions are uniformly distributed over entire syllabus.

