NOTIFICATION
(25/Sep/Adp./91)

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 revised Syllabi and Courses of Studies of the subject of **Computer Application (B.A./B.Sc.)** of Semester **I, II and III** for **Four Year Under Graduate Programme (FYUGP)** as per **NEP-2020 (as given in the annexure)** for the **Regular Candidates** for the examinations to be held in the years as per the details given below:-

Subject	Semester	Existing Code Course	New Code Course	For the examinations to be held in the year	Change of %
Computer Science (B.A./B.Sc.)	Semester-I	UMJCAT-101	UMJCAT-105	Dec. 2026, 2027 and 2028	35%
		UMICAT-102	UMICAT-106	Dec. 2026, 2027 and 2028	30%
		UMDCAT-103	UMDCAT-107	Dec. 2026, 2027 and 2028	25%
		USECAT-104	USECAT-111	Dec. 2026, 2027 and 2028	100%
	Semester-II	UMJCAT-201	UMJCAT-201	May 2027, 2028 and 2029	25%
		UMICAT-202	UMICAT-205	May 2027, 2028 and 2029	100%
		UMDCAT-203	UMDCAT-206	May 2027, 2028 and 2029	100%
		USECAT-204	USECAT-211	May 2027, 2028 and 2029	100%
	Semester-III	UMJCAT-301	UMJCAT-301	Dec. 2027, 2028 and 2029	No Change
		UMJCAT-302	UMJCAT-302	Dec. 2027, 2028 and 2029	25%
		UMICAT-303	UMICAT-306	Dec. 2027, 2028 and 2029	100%
		UMDCAT-304	UMDCAT-307	Dec. 2027, 2028 and 2029	100%
		USECAT-305	USECAT-311	Dec. 2027, 2028 and 2029	100%

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

Sd/-
DEAN ACADEMIC AFFAIRS

No. F. Acd/II/25/10257-265
Dated: 25/9/25

Copy for information and necessary action to:

1. Dean, Faculty of Mathematical Science
2. Convener, Board of Studies in **Computer Science & IT**
3. All members of the Board of Studies
4. Sr. P.A.to the Controller of Examinations
5. Director, Centre for IT Enabled services and Management, University of Jammu for information and for uploading on University Website.
6. C.A. to the Controller of Examinations
7. Director, Computer Centre, University of Jammu.
8. Joint Registrar/Deputy Registrar/Asst. Registrar (Conf./Exam UG/Exam. Non Prof.)

24/9/25
Joint Registrar (Academic)

18/9/25

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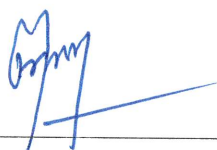## IN
COMPUTER APPLICATIONS

SYLLABUS

Revised Syllabus, 2025
(NEP-2020)

Four Year Undergraduate Programme

As per NEP 2020 guidelines

Under Choice based Credit System

FOR THE STUDENTS TO BE ADMITTED IN THE SESSIONS
2025-26, 2026-27, 2027-28

Syllabus of B.A/B.Sc. Honours
in
Computer Applications
(Four Year Undergraduate Programme)

For the students to be admitted in the year 2025-26, 2026-27 and 2027-28 & 2028-2029

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	UMJCAT105	Computer Fundamentals and Basics of Spreadsheet	4(3L+1P)	15	60	10	15	100
2	Minor	UMICAT106	Basics of Computers and Word Processing	4(3L+1P)	15	60	10	15	100
3	MD	UMDCAT107	Computer Aided Learning	3(2L+1P)	10	40	10	15	75
4	SEC	USECAT111	Office Tools	3(1L+2P)	-	25	10	40	75

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	UMICAT205	Internet and HTML Essentials	4(3L+1P)	15	60	10	15	100
3	MD	UMDCAT206	Computer Aided Learning	3(2L+1P)	10	40	10	15	75
4	SEC	USECAT211	Understanding e-Services	3(1L+2P)	-	25	10	40	75

SEMESTER – III

S. No.	Course Type	Course No.	Course Title	Credits	Theory		Practical/Tutorial		Total Marks
					Mid Semester	End Exam	Assessment	Exam	
1	Major	UMJCAT301	C Programming	4(3L+1P)	15	60	10	15	100
2	Major	UMJCAT302	PC Assembly and Installations	4(3L+1P)	15	60	10	15	100
3	Minor	UMICAT306	Programming Concepts using C	4(3L+1P)	15	60	10	15	100
4	MD	UMDCAT307	Computer Aided Learning	3(2L+1P)	10	40	10	15	75
5	SEC	USECAT311	Internet and Web Development with HTML	3(1L+2P)	-	25	10	40	75

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 got 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.
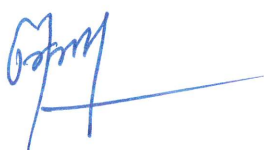
Practical's/Tutorials as applicable in a course (Major/Minor) are extension of the theory programme in an inbuilt (3+1) credits course i.e. 03 credits of theory and 01 credit of practical/tutorial. However, 02 credits major course of 5th semester will have only theory component. Each four credits paper 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.

All 03 credits Multidisciplinary courses shall be of 75 Marks with 02 credits of theory and 01 credit of practical. Each Multidisciplinary course will have 50 Marks for theory and 25 Marks for practical. The break-up for 50 Marks for theory paper shall contain 10 Marks for Mid Semester Assessment Test and 40 Marks for End Semester Examination. There will be continuous assessment of 10 Marks and final examination of 15 Marks for Practical component in each Multidisciplinary course.

All 03 credits Skill courses shall be of 75 marks comprising 25 marks for Theory Examination and 50 Marks for Practical Evaluation.

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 04 Credits 10 Marks for 02 Credits
End Semester University Examination shall be conducted for entire syllabus. The break up is as under: **1. 04 credits papers** **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. **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.	03 hours for 04 credits	60 Marks for 04 Credits
2. 02 credits papers **(Courses other than Skill Enhancement Course)** **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 2½ Marks. **Section B** shall consist of 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
3. 02 credits papers **(Skill Enhancement Course)** **Section A** shall consist of Four (4) short answer questions covering all three units with atleast one question from each unit. The students are required to attempt all questions. Each question shall be of 2½ Marks. **Section B** shall consist of 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 5 Marks.	2 hours for 1 credit	25 Marks for 1 Credit

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

Instructions for paper setter

1. **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 (Courses other than Skill Enhancement Course)**

   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 (Two from last unit and one each from first two units) 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.

3. **2 Credits Paper (Skill Enhancement Course)**

Total marks: 25

Time allotted: 2   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 covering all three units with atleast one question from each unit shall be set. The candidates are required to attempt all questions. Each question shall be of 2½ Marks.

(4x 2½ = 10 marks)

Section B

Total of Six (6) long answer questions, selecting two questions from each unit with internal choice shall be set. The candidates are required to attempt three questions selecting one from each unit. Each question shall be of 5 Marks.

(3 x 5 = 15 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 2025-26, 2026-27, 2027-28

CA (Arts and Science) - FIRST SEMESTER

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

Course Title: Computer Fundamentals and Basics of Spreadsheet
Course Code: UMJCAT105
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 2025, 2026, and 2027 and 2028

Course objectives & learning outcomes:
1. To learn the basics concepts of computers and its working.
2. To gain knowledge on software's and their applications.
3. To learn the basics of Spreadsheets and Windows.

UNIT – I

Computer and its Characteristics, Applications of Computer, Digital and Analog Computer, Generation of Computer, Computer Types: Mainframe Computer, Super Computer, Mini Computer. Memory hierarchy: Registers, Cache Memory, Primary Memory (RAM, ROM, EEPROM, UVPROM), 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. Anatomy of Window: Title Bar, Menu Bar, Tool Bar, Scroll Bars, Document Area, and Status Bar, Control panel. Disk Defragmentation, DOS and its Evolution, Internal and External Commands of DOS   15 Hours

UNIT – IV

Concept of Workbook, Worksheet, Workspace, Types of data, Formatting Workbook, Conditional formatting, Sorting Data, **Advance Features:** Data validation, Data filter (Auto & Advance), Charts, What if analysis: Goal seek, Scenario, Protecting Worksheet, Types of error, **Functions and Formula:** Mathematical: round, ceiling, floor, fact, subtotal, sum , sumif, **Logical:** AND, OR, NOT, if, **Statistical:** min, max, avg, count, **Text:** concatenate, exact, find, left, right, len, lower, upper, trim, **Lookup:** Hlookup, Vlookup, **Date and Time:** date, day, hour, minute, now, second, time, today, year

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 Prepppernau,,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 Basics of Spreadsheet
Course Code: UMJCAT105
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 ~~2025,~~ 2026, and 2027 and 2028

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 Evaluation
Daily evaluation of practical's/Viva voce etc.   10 marks
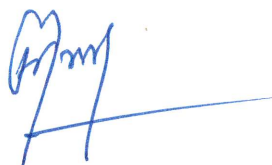
                                                                                                                  15 Marks
Final Examination

Pattern for external practical examination

Practical file	5 Marks
Written examination	5 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 Basics and Word Processing
Course Code: UMICAT106
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 2025, 2026, and 2027 and 2028

Course objectives & learning outcomes:
1.   To learn the basics of computers.
2.   To learn fundamentals of word processing.
3.   To brief the students about Windows.

UNIT – I

Computer and its Characteristics, Applications of Computer, Digital and Analog Computer, Generation of Computer, Computer Types: Mainframe Computer, Super Computer, Mini Computer. Memory hierarchy: Registers, Cache Memory, Primary Memory (RAM, ROM, PROM, EPROM, EEPROM,), Storage Units (Bit, Byte, KB, MB etc.). Secondary Storage, Input Devices: Keyboard, Mouse, Point and Draw Devices, Output devices: Data Scanning Devices, 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 their Merits and Demerits, Translators: Compiler, Linker, Interpreter, Loader, Computer Viruses and Antivirus Software.

15 Hours

UNIT - III

Number System: Decimal, Binary, Octal, Hexadecimal, Conversion of One Number System to Another, Arithmetic Operations on binary numbers, Complement of Numbers, Anatomy of Window: Title Bar, Menu Bar, Tool Bar, Scroll Bars, Document Area, and Status Bar, Control panel. Disk Defragmentation,   15 Hours

UNIT – IV

Creating text documents, **Working with text:** basic formatting like bold, italic, underline, borders, change color, font size, change case etc., basic editing like select-cut copy-paste, paragraph formatting, number & bullet list, navigation find & replace etc., View **and page layout:** font work, print layout, page margin, add header, footer, footnotes, endnotes, using columns etc. Using Clip Art, Word Art, **Advance Features:** Working with tables and graphics, Mail Merge, Other Features: Autocorrect, Autotext, Macros, Protecting documents etc,

15 Hours

Suggested readings/ References:
1.   P.K Sinha & Priti Sinha, "Computer Fundamentals", BPB Publications.
2.   **Microsoft Office 365 for Dummies, Rosemarie Withee, Ken Withee, and Jennifer Reed**
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 Basics and Word Processing
Course Code: UMICAT106
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 2025, 2026, and 2027 and 2028

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 Evaluation
Daily evaluation of practical's/Viva voce 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

CA (Arts and Science) - FIRST SEMESTER

Course: Multidisciplinary Foundation Course (MD)
Course Credits: (L-P-T)
(2-1-0)
Total marks: 75

Course Title: Computer Aided Learning.
Course Code: UMDCAT107
Mid Semester assessment: 10 Marks of 1hour duration
End Semester assessment: 40 Marks of 2½ hours duration
Practical: 25 Marks

For examinations to be held in Dec ~~2025~~, 2026, and 2027 and 2028

Course objectives & learning outcomes:
1. To learn the basics of Computer Fundamentals.
2. To understand hardware and software.
3. To gain basic knowledge of Window OS.
4. To brief the students about word Processing.

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, EPROM), Storage Units (Bit, Byte, KB, MB, GB,TB), Secondary Storage Devices: Hard Disks, Optical Disks, Compact Disks, Zip Drive, Flash Drives.

15 Hours

UNIT - II
Input Devices (Keyboard, Mouse, Joystick, Scanner), Output Devices Monitor, Plotter. Printer and its Types. Software and Hardware, Type of Software (System Software, Application Software, Firmware Software), Computer Languages, types and their advantages and disadvantages,

15 Hours

UNIT – III
Translators: Interpreter, Compiler, Linker, Loader, Computer Viruses and Antivirus Software. Computer Number System: Decimal Number, Binary Number, Octal Number, Hexadecimal Number, Arithmetic Operations on Binary Numbers, Number Conversions from one base to other.

10 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. 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, inserting Header, Footer. Using Clip Art, Word Art. Working with Table: Creating, Entering Data, Modifying, Formatting, Inserting Picture, Mail Merge, Macros.

15 Hours

NOTE: The last unit (Unit-IV) in this course is practical based and it is advised that the students be exposed to practical application of the unit.

Suggested readings/ references:
1. P.K Sinha & Priti Sinha, "Computer Fundamentals", BPB Publications.
2. Microsoft Office 365 for Dummies, Rosemarie Withee, Ken Withee, and Jennifer Reed
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. R.K. Taxali, "PC Software for Windows", McGraw Hill.
7. Word Mastery 2025 : From Beginners to Experts Ethan Wells

CA (Arts and Science) - FIRST SEMESTER

Course: Multidisciplinary Foundation Course (MD)
Course Credits: (L-P-T)
                    (2-1-0)
Total marks: 75

Course Title: Computer Aided Learning.
Course Code: UMDCAT107
Mid Semester assessment: 10 Marks of 1 hour duration
End Semester assessment: 40 Marks of 2½ hours duration
Practical: 25 Marks

For examinations to be held in Dec ~~2025~~ 2026, and 2027 and 2028

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 7 Marks.

(4 x 7 =28 marks)

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

Practical Evaluation
Daily evaluation of practical's/Viva voce 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

CA (Arts and Science) - FIRST SEMESTER

Course: Skill Enhancement Course (SEC)
Course Credits: (L-P-T)
                           (1-2-0)
Total marks: 75

Course Title: Office Tools
Course Code: USECAT111
End Semester Examination: 25 Marks of 2 hours duration
Practical: 50 Marks

For examinations to be held in Dec 2025, 2026, and 2027 and 2028

Course objectives & learning outcomes:
1. To provide working knowledge of word processing software.
2. To impart the skill to work with the spreadsheet software.
3. To develop the ability to prepare PowerPoint presentations.

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, 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 Formulas, Functions and Formula: Mathematical: round, ceiling, floor, fact, subtotal, sum , sumif, 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, Acess, and Outlook", Packt Publishing Limited.
4. OFFICE AUTOMATION TOOLS : A Guide, Notion Press Media Pvt Ltd
5. Microsoft Office 365 for Dummies, Rosemarie Withee, Ken Withee, and Jennifer Reed

CA (Arts and Science) - FIRST SEMESTER

Course: Skill Enhancement Course (SEC)
Course Credits: (L-P-T)   Course Title: Office Tools
                   (1-2-0)   Course Code: USECAT111
Total marks: 75   End Semester Examination: 25 Marks of 2 hours duration
                                                   Practical: 50 Marks

For examinations to be held in Dec ~~2025~~, 2026, and 2027 and 2028

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

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

(4x 2½ = 10 marks)

Section B

Total of Six (6) long answer questions, selecting two questions from each unit with internal choice shall be set. The candidates are required to attempt three questions selecting one from each unit. Each question shall be of 5 Marks.

(3 x 5 = 15 marks)

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

Practical Evaluation
Daily evaluation of practical's/Viva voce etc.

10 marks

Final Examination

40 Marks

Pattern for practical examination
Practical file   5 Marks
Written examination   20 Marks
Viva-Voce   15 Marks
Total   40 Marks

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 2026, 2027 and 2028 and 2029

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. and CSS

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
Hyperlinks: <a> tag, href attribute, target attribute, Internal and External Links, 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.
CSS: Introduction, Role, Types, CSS Syntax and Selectors, Applying CSS to HTML documents. Basic Selectors: element, class, ID, Text formatting: alignment, decoration, spacing, Backgrounds: color, image

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 2026, 2027 and 2028 and 2029

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 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

CA (Arts and Science) - SECOND SEMESTER

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

Course Title: Internet and HTML Essentials
Course Code: UMICAT205
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 2026 2027 and 2028 and 2029

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, History, Advantages and Disadvantages, Applications: E-Commerce (Benefits & Challenges), E-Governance, Cloud Storage and Services. 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, Client-server architecture, URL, DNS, Search Engines.

15 Hours

UNIT – III
IP Address, Types of IP Address (IPv4, IPv6), Classes of IP Addresses, Protocols: HTTP/HTTPs, FTP, SMTP. Introduction to Web Hosting, Domain name registration.
Introduction to HTML, Structure of HTML Document, HTML tags, HTML Basic Tags , Text Formatting Tags ,HTML Color Coding, Div and Span Tag for grouping, HTML List: Unordered, Ordered, Definition; HTML image Tag

15 Hours

UNIT – IV

Hyperlinks: <a> tag, href attribute, target attribute, Internal and External Links, 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 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: Internet and HTML Essentials
Course Code: UMICAT205
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 ~~2025 2026 and 2026~~ 2027, 2028 and 2029

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 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

CA (Arts and Science)–SECOND SEMESTER

Course: Multidisciplinary Foundation Course (MD)
Course Credits: (L-P-T)
                 (2-1-0)
Total marks: 75

Course Title: Computer Aided Learning.
Course Code: UMDCAT206
Mid Semester assessment: 10 Marks of 1hour duration
End Semester assessment: 40 Marks of 2½ hours duration
Practical: 25 Marks

For examinations to be held in May 2026, 2027 and 2028 and 2029

Course objectives & learning outcomes:
1.   To learn the basics of Computer Fundamentals.
2.   To understand hardware and software.
3.   To gain basic knowledge of Window OS.
4.   To brief the students about word Processing.

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, EPROM), Storage Units (Bit, Byte, KB, MB, GB,TB), Secondary Storage Devices: Hard Disks, Optical Disks, Compact Disks, Zip Drive, Flash Drives.
                                                                                          15 Hours

UNIT - II
Input Devices (Keyboard, Mouse, Joystick, Scanner), Output Devices Monitor, Plotter. Printer and its Types. Software and Hardware, Type of Software (System Software, Application Software, Firmware Software), Computer Languages, types and their advantages and disadvantages,
                                                                                          15 Hours

UNIT – III
Translators: Interpreter, Compiler, Linker, Loader, Computer Viruses and Antivirus Software. Computer Number System: Decimal Number, Binary Number, Octal Number, Hexadecimal Number, Arithmetic Operations on Binary Numbers, Number Conversions from one base to other.
                                                                                          10 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. 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, inserting Header, Footer. Using Clip Art, Word Art. Working with Table: Creating, Entering Data, Modifying, Formatting, Inserting Picture, Mail Merge, Macros.
                                                                                          15 Hours

NOTE: The last unit (Unit-IV) in this course is practical based and it is advised that the students be exposed to practical application of the unit.

Suggested readings/ references:
1.   P.K Sinha & Priti Sinha, "Computer Fundamentals", BPB Publications.
2.   Microsoft Office 365 for Dummies, Rosemarie Withee, Ken Withee, and Jennifer Reed
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.   R.K. Taxali, "PC Software for Windows", McGraw Hill.
7.   Word Mastery 2025 : From Beginners to Experts Ethan Wells

CA (Arts and Science) - SECOND SEMESTER

Course: Multidisciplinary Foundation Course (MD)
Course Credits: (L-P-T)
                   (2-1-0)
Total marks: 75

Course Title: Computer Aided Learning.
Course Code: UMDCAT206
Mid Semester assessment: 10 Marks of 1 hour duration
End Semester assessment: 40 Marks of 2½ hours duration
Practical: 25 Marks

For examinations to be held in May 2026, 2027 and 2028 and 2029

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 7 Marks.

(4 x 7 = 28 marks)

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

Practical Evaluation
Daily evaluation of practical's/Viva voce etc.   10 marks

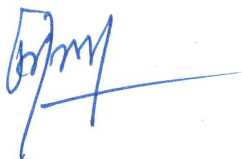**Final Examination**   15 Marks

Pattern for external practical examination
Practical file   5 Marks
Written examination   5 Marks
Viva-Voce   5 Marks
Total   15 Marks

CA (Arts and Science) - SECOND SEMESTER

Course: Skill Enhancement Course (SEC)   Course Title: Understanding e-Services
Course Credits: (L-P-T)   Course Code: USECAT211
                       (1-2-0)   Practical Evaluation: 50 Marks
Total marks: 75   End Semester Examination: 25 Marks of 2 hours duration

For examinations to be held in May ~~2026~~ 2027 and 2028 and 2029

Course objectives & learning outcomes:
1. To identify and describe various cyber threats and malware along with methods for their prevention.
2. To use secure electronic communication tools and understand online forms, spreadsheet etc.
3. To Utilize e-Governance platforms and digital financial systems effectively and securely

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/ 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,Acess, and Outlook", Packt Publishing Limited.

CA (Arts and Science) - SECOND SEMESTER

Course: Skill Enhancement Course (SEC)
Course Credits: (L-P-T)
(1-2-0)
Total marks: 75

Course Title: Understanding e-Services
Course Code: USECAT211
Practical Evaluation: 50 Marks
End Semester Examination: 25 Marks of 2 hours duration

For examinations to be held in May 2026, 2027, and 2028 and 2029

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

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

(4x 2½ = 10 marks)

Section B

Total of Six (6) long answer questions, selecting two questions from each unit with internal choice shall be set. The candidates are required to attempt three questions selecting one from each unit. Each question shall be of 5 Marks.

(3 x 5 = 15 marks)

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

Practical Evaluation
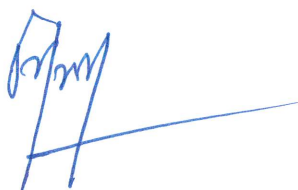Daily evaluation of practical's/Viva voce etc.

10 marks

Final Examination

40 Marks

Pattern for practical examination

Practical file	5 Marks
Written examination	20 Marks
Viva-Voce	15 Marks
Total	40 Marks

CA (Arts and Science) - THIRD SEMESTER

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

Course Title: C Programming
Course Code: UMJCAT301
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 ~~2026,~~ 2027, and 2028 and 2029

Course objectives & learning outcomes:

1. To learn the fundamentals of programming language.
2. To understand the concept of different control structures.
3. To learn about different data structures
4. To understand the concept of procedural programming.

UNIT – I

Algorithm, Flowcharts, Flowchart Symbols, Flowchart Rules, Assemblers, Compilers and Interpreters, Introduction to C programming, Character Set, C Tokens, Keywords and Identifiers, Constants, Variables, Data Types, Qualifiers, Format of C program, Arithmetic, Operators- Relational & Logical Operators, Assignment Operators, Increment & Decrement Operators, Operator Precedence & Associatively.   **15 Hours**

UNIT – II

Formatted Input, Formatted Output, escape sequences, Conditional Statements: if Statement, if...else Statement, Nested if....else Statements, Switch Statement, conditional Operator, Goto Statement, loops- for loop, while loop, do-while loop, break and continue statement.   **15 Hours**

UNIT – III

Storage classes, Pointers definition, Declaring Pointer Variables, using pointer variable, Arrays: One & Two Dimension Arrays, Initialization of one and two dimensional Arrays, Declaring and Initializing String Variables, String Handling Functions.   **15 Hours**

UNIT – IV

Preprocessor directives, Function Definition, Function Calls (call by value & call by address method), Returning Value, Types of Functions, Recursion, Passing Arrays to Functions, Macros, Defining Structure, Declaring and Accessing Structure Variables, Structures and Unions, Basics of File Handling and operations like open, close, read, write etc. Enumerations.   **15 Hours**

Suggested readings/ references:

1. E. Balaguruswami, Programming in C, PHI
2. Gottfried. B, Theory and problems of Programming with C Language, Tata Mc Graw Hill.
3. Kenneth. A, C Problem Solving and Programming, PHI.
4. Dan Gookin,C Programming, Wiley Dreamtech.
5. Y. P. Kanetkar, Understanding Pointers in C, BPB Publications.
6. Shubhnandan S. Jamwal, Programming in C, Pearson Publications.
7. H.M. Deitel and P.J. Deitel, C How to Program, PHI.

CA (Arts and Science) - THIRD SEMESTER

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

Course Title: C Programming
Course Code: UMJCAT301
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 2026 2027, and 2028 and 2029

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 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

CA (Arts and Science) - THIRD SEMESTER

		Course Title: PC Assembly and Installations
Course:	Major	Course Code: UMJCAT302
Course Credits:	(L-P-T)	Mid Semester assessment: 15 Marks of 1.5 hours duration
	(3-1-0)	End Semester assessment: 60 Marks of 3.0 hours duration
Total marks:	100	Practical: 25 Marks

For examinations to be held in Dec ~~2026~~, 2027, and 2028 and 2029

Course objectives & learning outcomes:

1. To have basic knowledge of PC Assembly and Installation.
2. To learn about Computer Maintenance and system tools.
3. To gain knowledge of OSS and open source data recovery tools

Unit-1

Peripheral Devices: Input and output devices, UPS (Online/Offline).

PC Tools: Connectors, Types of connectors - DIN Connector, Centronic connector, RS-232 Connector, RCA Connector, e-SATA, RJ 45 Connector, Computer ports: Serial port and Parallel port, PS/2 Port, USB Port, VGA Port, HDMI Port, Power Connector, Ethernet/LAN Port, Motherboard, its components, Types of motherboard, SMPS, Types of SMPS, RAM, ROM and its types.

15 Hours

Unit-2

Assembling the system: Major components of computer system and mandatory steps for assembling the computer system, POST, BIOS and its types, BIOS settings, Formatting /Partitioning of Hard disk, Operating system and its functions, Features of UNIX/ Windows, Installation of windows operating system. Booting process, Types of booting. Dual booting, Creating bootable media.

15 Hours

Unit-3

Computer Maintenance and system tools: Windows file repairing -System file checker(SFC) and Deployment image servicing and management (DISM), Disk Defragmentation, Disk Cleanup, ScanDisk, Open Source Software (OSS) and its features, Open Source Data Recovery tools. Control Panel: Control panel and its components. Adding and removing a printer, Printer Sharing, Creating users, groups.

15 Hours

Unit-4

System Restore, Creating recovery disk, Antivirus and its features, installing/uninstalling Antivirus, Device manager and its features. Creating Operating system image and installing OS from image file.
IP address (Static/Dynamic), Configuration of IP address/Subnet Mask in LAN, Crimping RJ45 Connector, Modem and its types, installation of MODEM, setting up Broadband connection. Configuring and securing Wireless Networks and Access Points, SSID.

15 Hours

Suggested Readings/Refrences:

1. P.K. Sinha and Priti Sinha, " Computer Fundamentals", BPB Publications.
2. R.K. Taxali ,"PC Software for Windows Made Simple", Tata McGraw Hill.
3. Wikibooks contributors, "How to Assemble a Desktop PC", Platypus Global Media.
4. Jacob Beckerman," How to build a computer ,"A step by step guide", Kindle Edition.

CA (Arts and Science) - THIRD SEMESTER

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

Course Title: PC Assembly and Installations
Course Code: UMJCAT302
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 2026, 2027, and 2028 and 2029

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 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

CA (Arts and Science)–THIRD SEMESTER

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

Course Title: Programming Concepts using C
Course Code: UMICAT306
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 2026, 2027 and 2028 and 2029

Course objectives & learning outcomes:

1. To learn the fundamentals of programming language.
2. To understand the concept of different control structures.
3. To learn about different data structures
4. To understand the concept of procedural programming.

UNIT – I
Algorithm, Flowcharts, Flowchart Symbols, Assemblers, Compilers and Interpreters, Introduction to C programming, Character Set, C Tokens, Keywords and Identifiers, Constants, Variables, Data Types, Qualifiers Format of C program, Arithmetic, Operators- Relational & Logical Operators, Assignment Operators, Increment & Decrement Operators, Operator Precedence & Associatively.   15 Hours

UNIT – II
Formatted Input, Formatted Output, escape sequences, Conditional Statements: if Statement, if...else Statement Switch Statement, conditional Operator, loops- for loop, while loop, do-while loop, break and continue statement.   15 Hours

UNIT – III
Storage classes, Arrays: One & Two Dimension Arrays, Initialization of one and two dimensional Arrays, Declaring and Initializing String Variables, String Handling Functions.   15 Hours

UNIT – IV
Preprocessor directives, Function Definition, Function Calls (call by value & call by address method), Returning Value, Types of Functions, Passing Arrays to Functions, Defining Structure, Declaring and Accessing Structure Variables, Unions.   15 Hours

Suggested readings/ references:

1. E. Balaguruswami, Programming in C, PHI
2. Gottfried. B, Theory and problems of Programming with C Language, Tata Mc Graw Hill.
3. Kenneth. A, C Problem Solving and Programming, PHI.
4. Dan Gookin,C Programming, Wiley Dreamtech.
5. Y. P. Kanetkar, Understanding Pointers in C, BPB Publications.
6. Shubhnandan S. Jamwal, Programming in C, Pearson Publications.
7. H.M. Deitel and P.J. Deitel, C How to Program, PHI.

CA (Arts and Science) - THIRD SEMESTER

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

Course Title: Programming concepts using C
Course Code: UMICAT306
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 ~~2026~~ 2027, and 2028 and 2029

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 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

CA (Arts and Science) - THIRD SEMESTER

Course: Multidisciplinary Foundation Course (MD)   Course Title: Computer Aided Learning.
Course Credits: (L-P-T)   Course Code: UMDCAT307
                (2-1-0)   Mid Semester assessment: 10 Marks of 1hour duration
Total marks: 75   End Semester assessment: 40 Marks of 2½ hours duration
                                                             Practical: 25 Marks

For examinations to be held in Dec 2026, 2027 and 2028 and 2029

Course objectives & learning outcomes:
5.   To learn the basics of Computer Fundamentals.
6.   To understand hardware and software.
7.   To gain basic knowledge of Window OS.
8.   To brief the students about word Processing.

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, EPROM), Storage Units (Bit, Byte, KB, MB, GB,TB), Secondary Storage Devices: Hard Disks, Optical Disks, Compact Disks, Zip Drive, Flash Drives.   15 Hours

UNIT - II

Input Devices (Keyboard, Mouse, Joystick, Scanner), Output Devices Monitor, Plotter. Printer and its Types. Software and Hardware, Type of Software (System Software, Application Software, Firmware Software), Computer Languages, types and their advantages and disadvantages,   15 Hours

UNIT – III

Translators: Interpreter, Compiler, Linker, Loader, Computer Viruses and Antivirus Software. Computer Number System: Decimal Number, Binary Number, Octal Number, Hexadecimal Number, Arithmetic Operations on Binary Numbers, Number Conversions from one base to other.   10 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. 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, inserting Header, Footer. Using Clip Art, Word Art. Working with Table: Creating, Entering Data, Modifying, Formatting, Inserting Picture, Mail Merge, Macros.

                                                                                        15 Hours

NOTE: The last unit (Unit-IV) in this course is practical based and it is advised that the students be exposed to practical application of the unit.

Suggested readings/ references:
1. P.K Sinha & Priti Sinha, "Computer Fundamentals", BPB Publications.
2. Microsoft Office 365 for Dummies, Rosemarie Withee, Ken Withee, and Jennifer Reed
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. R.K. Taxali, "PC Software for Windows", McGraw Hill.
7. Word Mastery 2025 : From Beginners to Experts Ethan Wells

CA (Arts and Science) - THIRD SEMESTER

Course: Multidisciplinary Foundation Course
(MD)

Course Title: Computer Aided Learning.
Course Code: UMDCAT307
Mid Semester assessment: 10 Marks of 1 hour duration
End Semester assessment: 40 Marks of 2½ hours duration
Practical: 25 Marks

Course Credits: (L-P-T)
(2-1-0)

Total marks: 75

For examinations to be held in Dec 2026, 2027 and 2028 and 2029

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 7 Marks.

(4 x 7 = 28 marks)

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

Practical Evaluation
Daily evaluation of practical's/Viva voce 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

CA (Arts and Science) - THIRD SEMESTER

Course: Skill Enhancement Course (SEC)   Course Title: Internet and Web Development with HTML
Course Credits: (L-P-T)   Course Code: USECAT311
                          (1-2-0)   Practical Evaluation: 50 Marks
Total marks: 75   End Semester Examination: 25 Marks of 2 hours duration

For examinations to be held in Dec 2026, 2027, and 2028 and 2029

Course objectives & learning outcomes:

1. To provide the basic knowledge of Internet terminologies.
2. To learn the fundamentals of Hypertext Markup Language.
3. To impart the practical skill of webpage development using HTML.

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

UNIT - II
E-Mail- Creating, Sending E-mails, Spam. Google Drive, Dropbox.
Introduction to HTML, Basic structure of an HTML document, creating an HTML document HTML Tags. Elements of HTML, Lists, Hyperlinks. HTML Formatting Tags. List: Unordered, Ordered, Images in HTML.   5 Hours

UNIT – III
HTML Table, Table tags: TABLE, TR, TH, TD etc.; Table tag attributes: table border, bgcolor, align, width, height, Cell Spacing and Cell Padding etc., Colspan and Rowspan. Working with Forms
                                                                                                    5 Hours

Suggested Readings:

1. *Fundamentals of Internet and Web Technology* – Reema Thareja, Oxford University Press
2. *Internet for Everyone* – Alexis Leon, Vikas Publishing House
3. *Computer Fundamentals and the Internet* – Anita Goel, Pearson Education
4. *HTML and CSS: Design and Build Websites* – Jon Duckett, Wiley India
5. *HTML in Easy Steps* – Mike McGrath, In Easy Steps Limited
6. *HTML, DHTML, JavaScript, Perl & CGI* – Ivan Bayross, BPB Publications
7. *HTML 5 Black Book: Covers CSS 3, JavaScript, XML, XHTML, AJAX, PHP and jQuery* – Kogent Learning Solutions Inc., Dreamtech Press

CA (Arts and Science) – THIRD SEMESTER

Course: Skill Enhancement Course (SEC)
Course Credits: (L-P-T)
(1-2-0)
Total marks: 75

Course Title: Internet and Web Development with HTML
Course Code: USECAT311
Practical Evaluation: 50 Marks
End Semester Examination: 25 Marks of 2 hours duration

For examinations to be held in Dec 2026, 2027, and 2028 and 2029

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

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

(4x 2½ = 10 marks)

Section B

Total of Six (6) long answer questions, selecting two questions from each unit with internal choice shall be set. The candidates are required to attempt three questions selecting one from each unit. Each question shall be of 5 Marks.

(3 x 5 = 15 marks)

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

Practical Evaluation
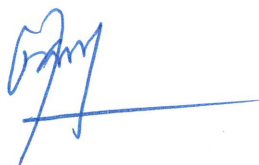Daily evaluation of practical's/Viva voce etc.

10 marks

Final Examination

40 Marks

Pattern for practical examination

Practical file	5 Marks
Written examination	20 Marks
Viva-Voce	15 Marks
Total	40 Marks

B.A./ B.Sc. Computer Application (FYUGP, NEP-2020)

Percentage of Change (Course-wise)

No.	Course Type	Course No.	Course Title	Old Course No.	%age of Change
			Semester-I		
1	Major	UMJCAT105	Computer Fundamentals and Basics of Spreadsheet	UMJCAT101	35%
1	Minor	UMICAT106	Basics of Computers and Word Processing	UMICAT102	30%
3	MD	UMDCAT107	Computer Aided Learning	UMDCAT103	25%
4	SEC	USECAT104	Office Tools	USECAT104	50%
			Semester-II		
5	Major	UMJCAT201	Fundamentals of Internet	UMJCAT201	15%
6	Minor	UMICAT205	Internet and HTML Essentials	UMICAT202	10%
7	MD	UMDCAT206	Computer Aided Learning	UMDCAT203	100%
8	SEC	USECAT204	Understanding e-Services	USECAT204	No Change
			Semester-III		
9	Major	UMJCAT301	C Programming	UMJCAT301	No Change
10	Major	UMJCAT302	PC Assembly and Installations	UMJCAT302	25%
11	Minor	UMICAT306	Programming Concepts using C	UMICAT303	100%
12	MD	UMDCAT307	Computer Aided Learning	UMDCAT304	100%
13	SEC	USECAT308	Internet and Web Development with HTML	USECAT305	100%