

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/68)

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 **Information Technology 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
Information Technology (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/ 9226-9265
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
Deputy Registrar (Academic) 7/11/22
AS Tody
7/11/22

**B. A. / B. Sc. Honours
IN
INFORMATION TECHNOLOGY**

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 Information Technology****(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 Information Technology is a four year undergraduate programme based on Semester System and consists of **eight** semesters. Each semester will be having minimum 90 working days. 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	UMJITT101	Fundamentals of IT	4(3L+1P)	15	60	10	15	100
2	Minor	UMIITT102	Basics of Computation	4(3L+1T)	15	60	10	15	100
3	MD	UMDITT103	IT : Basics and Application	3	15	60	NA	NA	75
4	SEC	USEITT104	Office Tools	2	10	40	NA	NA	50



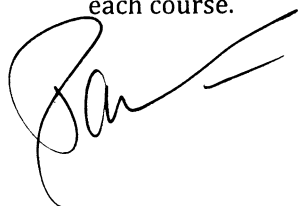
Semester – II

S. No.	Course Type	Course No.	Course Title	Credits	Marks				Total Marks
					Theory		Practical/Tutorial		
					Mid Semester	End Exam	Assessment	Exam	
1	Major	UMJITT201	Internet and Web Designing using HTML	4(3L+1P)	15	60	10	15	100
2	Minor	UMIITT202	Programming Concepts and Paradigms	4(3L+1P)	15	60	10	15	100
3	MD	UMDITT203	Technical Communication	3	15	60	NA	NA	75
4	SEC	USEITT204	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.

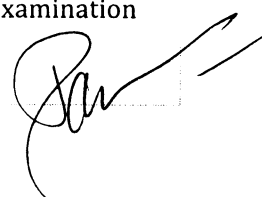
Practicals/Tutorials as applicable in a course (Major/Minor) are extension of the theory programme in an inbuilt (3+1) credits course i.e. 03 credits of theory and 01 credit of practical/tutorial. However, 02 credits major course of 5th semester will have only theory component. Each four credits paper 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
<p>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.</p> <p>End Semester University Examination shall be conducted for entire syllabus. The break up is as under:</p> <p>1. 03 and 04 credits papers</p> <p>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.</p> <p>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.</p> <p>2. 02 credits papers</p> <p>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.</p> <p>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.</p> <p>Note: Convener, BOS, can make minor modification in the scheme Skill course, if required. However, it must be clearly reflected in the syllabus.</p>	<p>1½ hours</p> <p>03 hours for 03/04 credits</p> <p>2½ hours for 02 credits</p>	<p>15 Marks for 03/04 Credits</p> <p>10 Marks for 02 Credits</p> <p>60 Marks for 03/04 Credits</p> <p>40 Marks for 02 Credits</p>
PRACTICAL/TUTORIAL		
<p>i. Daily evaluation of practical's/tutorials/Viva voce/Records etc.</p> <p>ii. Final Examination</p> <p>Note: The BOS shall device the mechanism of Final examination.</p>	<p>10 Marks for assessment</p> <p>15 Marks for Final examination</p>	<p>Continuous</p>

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
INFORMATION TECHNOLOGY**

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



IT (Arts and Science) - FIRST SEMESTER

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

Course Title: Fundamentals of IT
 Course Code: UMJITT101
 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 fundamentals of Information Technology.
2. To gain knowledge of various Input output devices.
3. To learn the basics of Operating systems and networking concepts
4. To brief the students about DOS & Windows.

UNIT - I

Basics of Information Technology: Data, Information, Information Technology, Components of Computer System: CPU, ALU, Control Unit, Registers, Booting process, Characteristics of computers, History of Computers, Application of computers, Role of IT in Online Teaching –Learning. 15 Hours

UNIT - II

Hardware: Input and Output devices: keyboard, Scanner, mouse, joystick, Lightpen, trackball, Monitor, Printer, Plotter, Projector. Software: Types of Software: System Software, Application Software. Memory: Types of memory: RAM, types of RAM, ROM, Types of ROM, optical Disk, flash Drive, Memory Hierarchy. 15 Hours

UNIT - III

Operating system: Introduction, functions of Operating System, types of Operating system, Single user, Multi User, Multitasking, time Sharing operating System. Networking: Introduction, process of communication, types of communication media, Modes of communication: simplex, half duplex, full duplex. WWW and Internet: history and working of Internet, Generation of internet, introduction to world wide web, architecture of www, types of web documents. 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. Peter Norton's, "Introduction to Computer", TMH
2. Chetan Shrivastava "Fundamentals of Information Technology", Kalyani Publishers
3. Dr MadhulikaJain," Information Technology Concept", BPB
4. Alexis and Mathews Leon, "Fundamentals of Information Technology", Leon Press
5. P.K. Sinha, "Computer Fundamentals", BPB Publications
6. V. Rajaraman, "Fundamentals of Computers", PHI Learning

IT (Arts and Science) - FIRST SEMESTER

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

Course Title: Fundamentals of IT
Course Code: UMJITT101
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



IT (Arts and Science) - FIRST SEMESTER

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

Course Title: Basics of Computation
 Course Code: UMIITT102
 Mid Semester assessment: 15 Marks of 1.5 hours duration
 End Semester assessment: 60 Marks of 3.0 hours duration
 Tutorial: 25 Marks

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

Course objectives & learning outcomes:

1. To learn the fundamentals of Computer.
2. To gain knowledge of various Input output devices.
3. To learn the basics of Operating systems and networking concepts
4. To brief the students about number system

UNIT - I

Basic Applications of Computer; Components of Computer System, Central Processing Unit (CPU), VDU, Keyboard and Mouse, Other input/output Devices, Computer Memory, Concepts of Hardware and Software; Concept of Computing, Data and Information; Applications of IECT; Connecting keyboard, mouse, monitor and printer to CPU and checking power supply. 15 Hours

UNIT - II

Software: Types of Software: System Software, Application Software, Hardware: Input and Output devices: keyboard, Scanner, mouse, joystick, Lightpen, trackball, Monitor, Printer, Plotter, Projector. Memory: Types of memory: RAM, types of RAM, ROM, Types of ROM, Types of secondary memory devices, Memory Hierarchy 15 Hours

UNIT - III

Introduction to operating system and its functions, Types of Operating system: DOS, UNIX, LINUX, Single user, Multi User, Multitasking. Introduction to networks, process of communication, types of communication media, Modes of communication: simplex, half duplex, full duplex. Introduction to World Wide Web and its architecture, history of Internet and its working, generation of Internet. 15 Hours

UNIT - IV

Digital Systems and Binary Numbers: Binary numbers, Number - Base Conversions, Arithmetic operations using number system, Data Representation - fixed and floating, Complements (1's and 2's), Binary codes - weighted / non-weighted codes, BCD codes, Excess-3-code, Grey codes, Conversion between codes, Code converters Codes for error detection and correction (Hamming code). 15 Hours

Suggested readings/ references:

1. Peter Norton's, "Introduction to Computer", TMH
2. Chetan Shrivastava "Fundamentals of Information Technology", Kalyani publishers
3. Dr Madhulika Jain, "Information Technology Concept", BPB
4. Alexisand Mathews Leon, "Fundamentals of Information Technology", Leon Press
5. P.K. Sinha "Computer Fundamentals", BPB Publications
6. V. Rajaraman "Fundamentals of Computers", PHI Learning

IT (Arts and Science) - FIRST SEMESTER

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

Course Title: Basics of Computation
Course Code: UMIITT102
Mid Semester assessment: 15 Marks of 1.5 hours duration
End Semester assessment: 60 Marks of 3.0 hours duration
Tutorial: 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



IT (Arts and Science) - FIRST SEMESTER

Course:	Multidisciplinary Foundation Course	Course Title: IT Basics and Applications
Course Credits:	(L-P-T) (3-0-0)	Course Code: UMDITT103
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 fundamentals of Information Technology.
2. To gain knowledge of various Input output devices.
3. To learn the basics of Operating systems.
4. To brief the students about e-commerce.

UNIT - I

Information Technology Basics: Data, information, Information technology, Components of Computer System: CPU, ALU, Control Unit, Registers, Booting process, Characteristics of computers, History of Computers, Application of computers, Role of IT in Online Teaching -Learning. Storage Fundamentals: Primary Vs Secondary Storage, Primary Storage: RAM ROM, PROM, EPROM, EEPROM. Secondary Storage: hard disks, Optical Disks, Compact Disks, Zip Drive, Flash Drives. 10 Hours

UNIT - II

Basic Computer Organization: Role of I/O devices in a computer system. Input Units: Keyboard, Terminals and its types. Pointing Devices, Scanners and its types, Voice Recognition Systems, Vision Input System, Touch Screen, Output Units: Monitors and its types. Printers: Impact Printers and its types. Non Impact Printers and its types, Plotters, types of plotters, Sound cards, Speakers. 10 Hours

UNIT - III

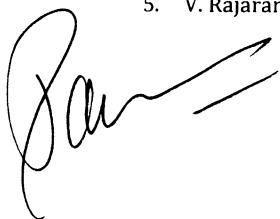
Operating System: Functions, Measuring System Performance, Assemblers, Compilers and Interpreters. Batch Processing, Multiprogramming, Multi Tasking, Multiprocessing, Time Sharing, DOS, Windows, Unix/Linux 10 Hours

UNIT - IV

Introduction to Electronic Payment System and its types, Strategies for developing electronic commerce web sites, Net marketplaces- characteristics of net marketplaces, types of net marketplaces, E-distributors, E procurement, Exchanges. Online content providers- digital copyrights & electronic publishing. 15 Hours

Suggested readings/ references:

1. Chetan Shrivastava "Fundamentals of Information Technology", Kalyani publishers
2. Dr Madhulika Jain, "Information Technology Concept", BPB
3. Alexisand Mathews Leon, "Fundamentals of Information Technology", Leon Press
4. P.K. Sinha "Computer Fundamentals", BPB Publications
5. V. Rajaraman "Fundamentals of Computers", PHI Learning



IT (Arts and Science) - FIRST SEMESTER

Course: Multidisciplinary Foundation Course
Course Credits: (L-P-T)
(3-0-0)
Total marks: 75

Course Title: IT Basics and Applications
Course Code: UMDITT103
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.

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(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.

