



UNIVERSITY OF JAMMU

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

Academic Section

Email: academicsectionju14@gmail.com

CORRIGENDUM

		Please Read		Instead of	
	Semester	Course Code/Title		Course Code/Title	
BCA (Web Techonolgy)	Semester-I	UMJCST101	Web Designing	UMJBCT101	Web Designing
		UMICST102	Computer Fundamentals	UMIBCT102	Computer Fundamentals
		UMDCST103	World Wide Web and Internet	UMDBCT103	World Wide Web and Internet
		USECST104	PC Software: Installation and Troubleshooting	USEBCT104	PC Software: Installation and Troubleshooting
	Semester-II	UMJCST201	Scripting Language	UMJBCT201	Scripting Language
		UMICST202	Web Programming using PHP	UMIBCT202	Web Programming using PHP
		UMDCST203	Introduction to Web Designing	UMDBCT203	Introduction to Web Designing
		USECST204	Cyber Security	USEBCT204	Cyber Security
BCA (Data Science)	Semester-I	UMJCST131	Problem Solving using C	UMJBCT131	Problem Solving using C
		UMICST132	Data Science Basics	UMIBCT132	Data Science Basics
		UMDCST133	Data Mining and Data Warehousing	UMDBCT133	Data Mining and Data Warehousing
		USECST104	PC Software: Installation and Troubleshooting	USEBCT104	PC Software: Installation and Troubleshooting
	Semester-II	UMJCST231	Introduction to Data Science	UMJBCT231	Introduction to Data Science
		UMICST232	Python Programming	UMIBCT232	Python Programming
		UMDCST233	Introduction to Machine Learning	UMDBCT233	Introduction to Machine Learning
		USECST204	Cyber Security	USEBCT204	Cyber Security
BCA (Software Development)	Semester-I	UMJCST161	Programming Paradigms & C Language	UMJBCT161	Programming Paradigms & C Language
		UMICST162	Computer Fundamentals and PC Software	UMIBCT162	Computer Fundamentals and PC Software
		UMDCST163	Computer Fundamentals	UMDBCT163	Computer Fundamentals
		USECST104	PC Software: Installation and Troubleshooting	USEBCT104	PC Software: Installation and Troubleshooting



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	Semester-II	UMJCST261 Data and File Structures using C Language	UMJBCT261 Data and File Structures using C Language
		UMICST262 Python Programming	UMIBCT262 Python Programming
		UMDCST263 C-Programming	UMDBCT263 C-Programming
		USECST204 Cyber Security	USEBCT204 Cyber Security

as already notified vide notification No. F.Acd/II/22/9306-9345 dated 07.11.2022 in the Syllabi and Courses of Studies of semester Ist and IInd for **Four Year Under Graduate Programme of Bachelor of Computer Applications (FYUGP-BCA)** under the Choice Based Credit System as per **NEP-2020 (as given in the Annexure)**

Sd/-
DEAN ACADEMIC AFFAIRS

No. F. Acd/II/22/10245-10255'

Dated: 07-12-2022

Copy for information and necessary action to:

1. Dean, Faculty of Mathematical Science
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.

Deputy Registrar (Academic)

[Signature]
07/11/22
Todyz M
07/12/22

**Bachelor of Computer Applications
(BCA)**

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**

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Course Details for Four-Year UG Programme

S. NO.	COURSES	DISCIPLINES
1	Computer Applications (CA)- Arts & Science	Natural Science and Arts & Humanities
2	Information Technology (IT)- Arts & Science	Natural Science and Arts & Humanities
3	Bachelor of Computer Applications (BCA)	Computer Applications (for BCA degree)
	BCA (Web Technology)	
	BCA (Data Science)	
	BCA (Software Development)	



Bachelor of Computer Applications (BCA)

WEB TECHNOLOGY SCHEME

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**



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	UMJCST101	Web Designing	4(3L+1P)	15	60	10	15	100
2	Minor	UMICST102	Computer Fundamentals	4(3L+1P)	15	60	10	15	100
3	MD	UMDCST103	World Wide Web and Internet	3	15	60	NA	NA	75
4	SEC	USECST104	PC Software: Installation and Troubleshooting	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	UMJCST201	Scripting Languages	4(3L+1P)	15	60	10	15	100
2	Minor	UMICST202	Web Programming using PHP	4(3L+1P)	15	60	10	15	100
3	MD	UMDCST203	Introduction to Web Designing	3	15	60	NA	NA	75
4	SEC	USECST204	Cyber Security	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.

03 hours for
03/04 credits

60 Marks for
03/04 Credits

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.

2½ hours for 02
credits

40 Marks for
02 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.

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.

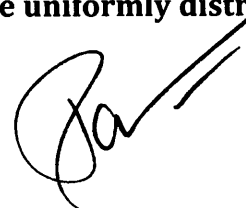
(4 x 2½ = 10 marks)

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.



BCA (Web Technology) - FIRST SEMESTER

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

Course Title: Web Designing
 Course Code: UMJCST101
 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 Internet.
2. To understand basic web fundamentals.
3. To gain knowledge on HTML and CSS style sheets
4. To brief the students about java script and constructs.

UNIT - I

The basics of Internet, World Wide Web, Static, Dynamic and Active web page, Overview of Protocols – Simple Mail Transfer Protocol, Gopher, Telnet, Emails, TFTP, Simple Network Management Protocol, Hyper Text Transfer Protocol, Client server computing concepts.

15 Hours

UNIT - II

Web Browser, Installing and setting up browsers, cookies, security features in Browsers, Client-Side Scripting Languages- VB Script and Java Script, Active X control and Plug-ins, Web Server Architecture, Image maps, CGI, API web database connectivity-DBC, ODBC

15 Hours

UNIT - III

Introduction to HTML, Tags and Attributes, Text Styles and Text Arrangements, Text, Effects, Exposure to Various Tags (DIV, MARQUEE, NOBR, DFN, HR, LISTING, Comment, IMG), Color and Background of Web Pages, Design Tables and Forms, Lists and their Types, Image Tag, Hypertext, Hyperlink and Hypermedia, Links, Anchors and URLs, Links to External Documents, Creating Table, Frame, Form and Style Sheet, Dynamic HTML, Document Object Model, Features of DHTML, Introduction to CSS, and its types (Inline, Internal and External), Text boxes, Pseudo Classes, Selectors, Animations, Transitions etc.

15 Hours

UNIT - IV

Introduction to Java Script, Embedding JavaScript in HTML, Objects, Methods, Events and Functions, Tags, Operators, Data Types, Literals and Type Casting in JavaScript, Programming Construct, Array and Dialog Boxes, Relating JavaScript to DHTML, Dynamically Changing Text, Style, Content

15 Hours

Suggested readings/ references:

1. Achyut Godbole and Atul Kahate, "Web Technologies", McGraw Hill.
2. Burdman, "Collaborative Web Development", Addison Wesley.
3. Jeffrey C. Jackson, "Web Technologies", Prentice Hall
4. Sharma & Sharma, "Developing E-Commerce Sites", Addison Wesley
5. Ivan Bayross, "Web Technologies Part II", BPB Publications.



BCA (Web Technology) - FIRST SEMESTER

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

Course Title: Web Designing
 Course Code: UMJCST101
 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



BCA (Web Technology) - FIRST SEMESTER

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

Course Title: Computer Fundamentals.
Course Code: UMICST102
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 Computer Fundamentals.
2. To learn the concepts of number system and operating system.
3. To gain knowledge on software and applications.
4. To brief the students about word processing and editing tools.

UNIT - I

The basics of Internet, World Wide Web, Static, Dynamic and Active web page, Overview of Protocols – Simple Mail Transfer Protocol, Gopher, Telnet, Emails, TFTP, Simple Network Management Protocol, Hyper Text Transfer Protocol, Client server computing concepts.

15 Hours

UNIT - II

Software and its Types (System Software, Application Software, Firmware Software) 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, Complement, Introduction to operating system, Architecture, Types of Operating System, Parallel, Distributed & Real time Operating System, Multiprogramming, Multitasking, Time sharing, Memory Management, File Management.

15 Hours

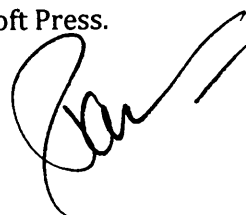
UNIT - IV

Using Word Processing: Features of Word processing software, Opening and Closing of documents, Text creation and Manipulation, Formatting of text, Table handling, Spell check, language setting and thesaurus, Using Spreadsheet tool: Basics of Spreadsheet, features, Formulas and Functions, header and footer, deleting or Inserting Cells, Rows and Columns, Goal Seek, Sorting and Filter, Creating charts. Using Slide Presentation Tool: Basics of PowerPoint, Preparation and Presentation of Slides, Master Slides, setup Slide Show, Formatting and Clip Arts, PowerPoint Views, Assigning Slide Transitions, Header/Footer, Word Art, Templates.

15 Hours

Suggested readings/ references:

1. P.K Sinha and Priti Sinha, "Computer Fundamentals", BPB Publications.
2. Alexix Leon and Mathewes Leon, "Fundamentals of Information Technology", Leon TechWorld
3. Suresh K. Basandra, "Computer Systems Today", Galgotia Publications.
4. V. Rajaraman, "Fundamentals of Computers", IEEE.
5. Peter Nortan, "Introduction to Computers", Tata McGraw Hill
6. Joyce Coax et al., "Microsoft Office System step by step", Microsoft Press.



BCA (Web Technology) - FIRST SEMESTER

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

Course Title: Computer Fundamentals.
Course Code: UMICST102
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

