



## ವಿಶ್ವವಿದ್ಯಾರಣ್ಯ ತಾಂತ್ರಿಕ ವಿಶ್ವವಿದ್ಯಾಲಯ



ಬಿ.ಟಿ.ಯು. ಆಧಿನಿಯಮ ೧೯೯೪ ರ ಅಡಿಯಲ್ಲಿ ಕರ್ನಾಟಕ ಸರ್ಕಾರದಿಂದ ಸ್ಥಾಪಿತವಾದ ರಾಜ್ಯ ವಿಶ್ವವಿದ್ಯಾಲಯ

### Visvesvaraya Technological University

(State University of Government of Karnataka Established as per the VTU Act, 1994)

"Jnana Sangama" Belagavi-590018, Karnataka, India



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Date: 16 MAY 2025

#### Circular

Sub: **BCA252 & BCA286** – Updating the mode of examination for Bachelor of Computer Application (BCA) Programme 2<sup>nd</sup> Semester Courses (2024 Scheme)

- Ref: 1) Chairperson, UBOS in CSE/ISE/MCA, VTU, Belagavi approval dated 15-05-2025  
2) Hon'ble Vice Chancellor's approval dated 16-05-2025

With reference to the above, this is to inform you that as per the recommendation of the Chairperson, UBOS in CSE/ISE/MCA, VTU, Belagavi the changes are made to the mode of examination – shifting from MCQ to Theory-based format and vice versa as detailed below:

Name of the Programme: Bachelor of Computer Applications (BCA) - 2024 Scheme

Subject Code	Existing (Old Scheme)			Modified (New Scheme)			Remarks
	Subject Name	Exam Mode	Exam Duration	Subject Name	Exam Mode	Exam duration	
BCA252	Introduction to Scripting Languages (MCQ)	MCQ	1 Hour	Introduction to Scripting Languages	Theory	3 Hours	Change from MCQ to Theory
BCA286	Fundamentals of Fintech	Theory	3 Hours	Fundamentals of Fintech (MCQ)	MCQ	1 Hour	Change from Theory to MCQ

The updated scheme & syllabus for the above subjects is enclosed herewith for your information. You are hereby requested to bring the contents of this Circular to the notice of all the concerned faculty members / students of your college and follow the same.

Encl: updated syllabus

To

- 1) The Principals of constituent and all affiliated engineering colleges under VTU.
- 2) The Chairpersons/Programme Coordinators of all VTU PG Centres at Muddenhalli, Belagavi, Mysuru and Kalaburagi Regions.

Copy to:

- 1) The Secretary to VC, VTU, Belagavi.
- 2) The Registrar (Eval.), VTU, Belagavi.
- 3) The Regional Director (I/c), VTU Regional Offices at Bengaluru, Belagavi, Kalaburagi & Mysuru for information and circulation.
- 4) The Director, ITISMU, VTU, Belagavi to upload the Circular in the University website.
- 5) The Special Officer, Examination Section, VTU, Belagavi.
- 6) PS to Registrar, VTU, Belagavi.

Registrar

16/05/25 & E

II SEMESTER											
Sl. No	Course	Course Code	Course Title	Teaching Hours per Week			Examination				Credits
				Theory	SDA/ Tutorial	Practical	Duration in hours	CIE Marks	SEE Marks	Total Marks	
				L	SDA /T	P					
1	AEC	BCA251	Indian / Foreign Language (MCQ for Particular Language – SEE)	02	-	--	01	50	50	100	2
2	AEC	BCA252	Introduction To Scripting Languages (Theory)	02	-	--	03	50	50	100	2
3	PCC	BCA203	Discrete Mathematical Structure	03	--	--	03	50	50	100	3
4	PCC	BCA204	Fundamentals of Data Structure (K/E)	03	--	--	03	50	50	100	3
5	PCC	BCA205	Unix and Shell Scripting	03	--	--	03	50	50	100	3
6	SEC	BCA286	Fundamentals of Fintech (MCQ)	02	-	--	01	50	50	100	2
7	PCCL	BCAL207	Unix and Shell Scripting Laboratory	01		02	03	50	50	100	2
8	PCCL	BCAL208	Data Structure Using C Laboratory	01		02	03	50	50	100	2
9	VAC	BCA209	Constitution of India(K/E)(MCQ)	00	02	--	01	50	50	100	1
TOTAL				17	02	04	28	450	450	900	20

AEC-Ability Enhancement Courses, PCC - Professional Core Courses, PCCL - Professional Core Course Laboratory, VAC - Value Added Courses

BCA105A- Fundamentals of Mathematics- This is for students other than those in the science stream at 10+2 level. BCA105B- for Science Stream students.

SDA- Skill Development Activities

At the beginning of the semester 21 days of the Induction Program o 11 days in the beginning of the 1<sup>st</sup> semester and 10 days in the beginning of the 2<sup>nd</sup> semester



INTRODUCTION TO SCRIPTING LANGUAGES		SEMESTER	1
Course Code	BCA252	CIE Marks	50
Teaching Hours/Week (L: P: SDA)	2:0:0	SEE Marks	50
Total Hours of Pedagogy	25-30	Total Marks	100
Credits	02	Exam Hours	03
Type of Course SEE	Theory type		
<b>COURSE OBJECTIVES:</b>			
<ul style="list-style-type: none"> <li>To educate students about basic scripting languages.</li> <li>To provide knowledge about adding interactive elements to websites.</li> <li>To educate students to create dynamically updating content, control multimedia.</li> </ul>			
<b>MODULE-1</b>			
<b>Introduction to HTML and Web Technologies: Overview of Web Technologies:</b> Web browsers, web servers, HTTP, and the basics of the World Wide Web (WWW), <b>What is HTML?:</b> Purpose and role of HTML in web development, <b>Structure of an HTML Document:</b> <!DOCTYPE html>, <html>, <head>, <body> tags, <b>Basic HTML Tags:</b> <html>, <head>, <title>, <body>, <h1> to <h6>, <p>,  , <hr>, <b>Hello HTML5,</b> Loose Syntax Returns, Embracing the Reality of Web Markup, Presentational Markup Removed and Redefined, HTML5 Document Structure Changes, Adding Semantics, HTML5's Open Media Effort.			
<b>MODULE-2</b>			
<b>HTML Tables and Forms and CSS:</b> Table Elements, Formatting a Data Table: Borders, Alignment, and Padding, HTML5 Form Changes, Emerging Elements and Attributes to Support Web Applications, Introduction, CSS Overview, CSS Rules, Example with Type Selectors and the Universal Selector, CSS Syntax and Style, Class Selectors, ID Selectors, span and div Elements, Cascading, style Attribute, style Container, External CSS Files.			
<b>MODULE-3</b>			
<b>Introduction to JavaScript: Functions, DOM, Forms:</b> CSS Properties, Color Properties, RGB Values for Color, Opacity Values for Color, HSL and HSLA Values for Color, Font Properties, line-height Property, Text Properties, Border Properties, Element Box, padding Property, margin Property, <b>History of JavaScript,</b> Hello World Web Page, Buttons, Functions, Variables, Identifiers, Document Object Model.			
<b>MODULE-4</b>			
<b>Introduction to Angular JS:</b> Forms and How They're Processed: Client-Side Versus Server-Side, form Element, Controls, Text Control, Accessing a Form's Control Values, reset and focus Methods, <b>Introduction to Angular JS,</b> Directives, Expressions, Directives, Controllers, Filters.			
<b>MODULE-5</b>			
<b>Introduction to JQuery,</b> Exploring the Fundamentals of jQuery, Loading and Using jQuery, Using the jQuery Library files, selectors, events, exploring jQuery effects.			
<b>Teaching Methodology:</b> Chalk and talk method / PowerPoint Presentation.			
<b>COURSE OUTCOMES:</b>			
<b>CO 1.</b> Develop HTML5 documents and adding various semantic markup tags. <b>CO 2.</b> Construct Tables and analyze various attributes, values and types of CSS. <b>CO 3.</b> Implement core constructs and develop HTML5 documents using JavaScript. <b>CO 4.</b> AngularJS directives, expressions, controllers, and filters for building dynamic web applications. <b>CO 5.</b> Explain the use of JQuery concepts.			

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**Suggested Learning Resources:****Books**

1. HTML & CSS: Design and Build Websites by Jon Duckett (Free Chapters Available Online)
2. HTML5 for Web Designers by Jeremy Keith (Free PDF Available)
3. HTML & CSS: The Complete Reference Thomas A. Powell, Fifth Edition, Tata McGraw Hill
4. WEB PROGRAMMING with HTML5, CSS and JavaScript, John Dean, Jones & Bartlett Learning, First Edition
5. AngularJS: Up and Running by Shyam Seshadri and Brad Green (Free PDF Available)
6. Learning jQuery by Jonathan Chaffer and Karl Swedberg (Free PDF Available)



FUNDAMENTALS OF FINTECH		SEMESTER	II
Course Code	BCA286	CIE Marks	50
Teaching Hours/Week (L: P: SDA)	2:0:0	SEE Marks	50
Total Hours of Pedagogy	25-30	Total Marks	100
Credits	02	Exam Hours	01
Type of the Course SEE	MCQ		
<b>COURSE OBJECTIVES:</b>			
<ul style="list-style-type: none"> <li>Understand evolution of FinTech and role in digital payments and mobile banking</li> <li>Understand blockchain and crypto currency and identify lending and crowd funding platforms</li> <li>Understand Robo-advisory and their role in wealth management</li> </ul>			
<b>MODULE-1</b>			
<b>Introduction to Financial Technology (FinTech):</b> Overview of Financial Technology (History and evolution of FinTech); Role and importance fintech in modern finance ; Traditional vs digital financial system; Key FinTech sectors (Payments, Lending, Blockchain, Robo-Advisors, InsurTech, RegTech, etc.)			
<b>MODULE-2</b>			
<b>Module – 2: Digital Payments and Mobile Banking:</b> Introduction to digital payments: Types, methods, and platforms ; Mobile payment systems (UPI, PayPal, Google Pay, etc.) ; Cryptography in payment systems Security issues in digital payments ; Regulatory frameworks and compliance (e.g., GDPR, PCI-DS)			
<b>MODULE-3</b>			
<b>Module – 3: Blockchain Technology and Crypto currencies:</b> Introduction to Blockchain technology: Concepts and structure ; Blockchain use cases in financial services ; Crypto currencies: Bitcoin, Ethereum, and Altcoins; Crypto currency exchanges and wallets Smart contracts and Decentralized Finance (DeFi) Regulatory challenges and future trends			
<b>MODULE-4</b>			
<b>Module – 4: Lending and Crowd funding Platforms:</b> Peer-to-peer (P2P) lending platforms; Crowdfunding models (Equity-based, Reward-based, etc.); Alternative credit scoring models; Risk assessment and mitigation in lending ; Role of Artificial Intelligence (AI) and Machine Learning (ML) in lending			
<b>MODULE-5</b>			
<b>Module – 5: Robo-Advisory and Wealth Management:</b> Introduction to Robo-advisors and their role in wealth management; Algorithmic trading and investment strategies; Risk management and portfolio diversification using technology; Regulatory environment for Robo-advisory services; Comparison of traditional vs digital wealth management; Future of FinTech: Trends, challenges, and opportunities			
<b>Teaching Methodology:</b> Chalk and talk method / PowerPoint Presentation.			
<b>COURSE OUTCOMES:</b>			
CO 1. Understanding the key sectors and evolution of FinTech in modern finance.			
CO 2. Gaining knowledge of digital payment systems, security, and regulatory compliance.			
CO 3. Understanding blockchain applications in finance and the role of cryptocurrencies.			
CO 4. Learning about alternative lending models and risk assessment in digital lending.			
CO 5. Exploring Robo-advisors and their impact on wealth management and investment strategies.			

**Suggested Learning Resources:**

**Books**

1. FinTech: The New DNA of Financial Services" by Pranay Gupta and T. Mand
2. Mastering Blockchain: Unlocking the Power of Cryptocurrencies, Smart Contracts, and Decentralized Applications" by Imran Bashir
3. Digital Bank: Strategies to Launch or Become a Digital Bank" by Chris Skinne