

FACULTY OF ENGINEERING & TECHNOLOGY

U.V. PATEL COLLEGE OF ENGINEERING

BACHELOR OF TECHNOLOGY IN INFORMATION TECHNOLOGY (B.TECH-IT)

Syllabus Details

Effective Year 2024-2025

Program	: B.TECH-IT	Semester	: I
Total Course	: 7	Total Regular Course	: 6
Total Elective Course	: 0	Total Open Course	: 0
Total Audit Course	: 1		

#	CourseCode	Course Title	Teaching Scheme				Examination Scheme				
			CREDIT			TOTAL HOURS	TH		PR		TOTAL
			TH	PR/TW	TOTAL		Internal	External	Internal	External	
1	2BS1101	MATHEMATICS - I	4.00	0.00	4.00	4.00	0/40	0/60	-	-	100
2	2ES1101	ENGINEERING GRAPHICS	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
3	2ES1103	BASIC ELECTRICAL ENGINEERING	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
4	2ES1109	BASICS OF WEB TECHNOLOGY	2.00	2.00	4.00	6.00	0/40	0/60	0/30	0/20	150
5	2ES1110	IT PERIPHERALS & TOOLS	0.00	2.00	2.00	4.00	-	-	0/30	0/20	50
6	2HS1102	SEMINAR	0.00	1.00	1.00	2.00	-	-	0/30	0/20	50
7		AUDIT SUBJECT - 1	0.00	0.00	0.00	2.00	-	-	-	-	0
			12.00	7.00	19.00	28.00					650

List of Audit Subjects

Group Name	Course Code	Name of Course
AUDIT	2AC1103	ENVIRONMENTAL STUDIES AND DISASTER MANAGEMENT

Examination Grade Range & Value

Marks/Perc. Range	Grade (Regular)	Grade Point (Regular)	Grade (Remedial)	Grade Point (Remedial)
90>=	A+	10	A	9
80 To 89	A	9	B+	8
70 To 79	B+	8	B	7
60 To 69	B	7	C+	6
50 To 59	C+	6	C	5
40 To 49	C	5	C	5
<40	F	0	F	0

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U.V. PATEL COLLEGE OF ENGINEERING

BACHELOR OF TECHNOLOGY IN INFORMATION TECHNOLOGY (B.TECH-IT)

Syllabus Details

Effective Year 2024-2025

Program : B.TECH-IT
 Total Course : 7
 Total Elective Course : 1
 Total Audit Course : 0

Semester : II
 Total Regular Course : 6
 Total Open Course : 0

#	CourseCode	Course Title	Teaching Scheme				Examination Scheme				
			CREDIT			TOTAL HOURS	TH		PR		TOTAL
			TH	PR/TW	TOTAL		Internal	External	Internal	External	
1	2BS1102	MATHEMATICS - II	4.00	0.00	4.00	4.00	0/40	0/60	-	-	100
2	2BS1103	PHYSICS	2.00	1.00	3.00	4.00	0/40	0/60	0/30	0/20	150
3	2HS1101	COMMUNICATION SKILLS	2.00	1.00	3.00	4.00	0/40	0/60	0/30	0/20	150
4	2ES1102	WORKSHOP PRACTICE	0.00	2.00	2.00	4.00	-	-	0/30	0/20	50
5	2ES1104	PROGRAMMING FOR PROBLEM SOLVING	2.00	2.00	4.00	6.00	0/40	0/60	0/30	0/20	150
6	2ES1111	IT WORKSHOP	0.00	2.00	2.00	4.00	-	-	0/30	0/20	50
7		ELECTIVE SUBJECT - 1 (UHV_Elective-I)	2.00	0.00	2.00	2.00	0/100	-	-	-	100
			12.00	8.00	20.00	28.00					750

List of Elective Subjects

Group Name	Course Code	Name of Course
UHV_ELECTIVE-I	UHV1IPDC1	UNIVERSAL HUMAN VALUE (INTEGRATED PERSONALITY DEVELOPMENT COURSE-1)
	UHV3DYSBG1	UNIVERSAL HUMAN VALUE (DISCOVER YOURSELF THROUGH BHAGAVAD GITA-1)

Examination Grade Range & Value

Marks/Perc. Range	Grade (Regular)	Grade Point (Regular)	Grade (Remedial)	Grade Point (Remedial)
90>=	A+	10	A	9
80 To 89	A	9	B+	8
70 To 79	B+	8	B	7
60 To 69	B	7	C+	6
50 To 59	C+	6	C	5
40 To 49	C	5	C	5
<40	F	0	F	0

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BACHELOR OF TECHNOLOGY IN INFORMATION TECHNOLOGY (B.TECH-IT)

Syllabus Details

Effective Year 2024-2025

Program : B.TECH-IT
 Total Course : 6
 Total Elective Course : 1
 Total Audit Course : 0

Semester : III
 Total Regular Course : 5
 Total Open Course : 0

#	CourseCode	Course Title	Teaching Scheme				Examination Scheme				
			CREDIT			TOTAL HOURS	TH		PR		TOTAL
			TH	PR/TW	TOTAL		Internal	External	Internal	External	
1	2BS3102	DISCRETE MATHEMATICS & PROBABILITY	4.00	0.00	4.00	4.00	0/40	0/60	-	-	100
2	2CEIT301	DIGITAL ELECTRONICS	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
3	2CEIT302	OBJECT ORIENTED PROGRAMMING	3.00	2.00	5.00	7.00	0/40	0/60	0/30	0/20	150
4	2CEIT303	DATABASE MANAGEMENT SYSTEM	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
5	2CEIT304	DATA STRUCTURES	3.00	2.00	5.00	7.00	0/40	0/60	0/30	0/20	150
6		ELECTIVE SUBJECT - 1 (UHV_Elective-II)	2.00	0.00	2.00	2.00	0/100	-	-	-	100
			18.00	6.00	24.00	30.00					800

List of Elective Subjects

Group Name	Course Code	Name of Course
UHV_ELECTIVE-II	UHV2IPDC2	UNIVERSAL HUMAN VALUE (INTEGRATED PERSONALITY DEVELOPMENT COURSE-2)
	UHV4DYSBG2	UNIVERSAL HUMAN VALUE (DISCOVER YOURSELF THROUGH BHAGAVAD GITA-2)

Examination Grade Range & Value

Marks/Perc. Range	Grade (Regular)	Grade Point (Regular)	Grade (Remedial)	Grade Point (Remedial)
90>=	A+	10	A	9
80 To 89	A	9	B+	8
70 To 79	B+	8	B	7
60 To 69	B	7	C+	6
50 To 59	C+	6	C	5
40 To 49	C	5	C	5
<40	F	0	F	0

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U.V. PATEL COLLEGE OF ENGINEERING
BACHELOR OF TECHNOLOGY IN INFORMATION TECHNOLOGY (B.TECH-IT)

Syllabus Details

Effective Year 2024-2025

Program : B.TECH-IT
 Total Course : 7
 Total Elective Course : 0
 Total Audit Course : 0

Semester : IV
 Total Regular Course : 7
 Total Open Course : 0

#	CourseCode	Course Title	Teaching Scheme				Examination Scheme				
			CREDIT			TOTAL HOURS	TH		PR		TOTAL
			TH	PR/TW	TOTAL		Internal	External	Internal	External	
1	2BS4101	MATHEMATICS FOR COMPUTER ENGINEERING & INFORMATION TECHNOLOGY	4.00	0.00	4.00	4.00	0/40	0/60	-	-	100
2	2CEIT401	OPERATING SYSTEMS	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
3	2CEIT402	DESIGN AND ANALYSIS OF ALGORITHMS	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
4	2CEIT404	PROGRAMMING WITH PYTHON	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
5	2CEIT405	NOSQL DATABASE SYSTEMS	0.00	1.00	1.00	2.00	-	-	0/30	0/20	50
6	2CEIT406	SOFTWARE ENGINEERING AND PROJECT MANAGEMENT	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
7	2CEIT407	DESIGN THINKING	0.00	1.00	1.00	2.00	-	-	0/30	0/20	50
			16.00	6.00	22.00	28.00					800

Examination Grade Range & Value

Marks/Perc. Range	Grade (Regular)	Grade Point (Regular)	Grade (Remedial)	Grade Point (Remedial)
90>=	A+	10	A	9
80 To 89	A	9	B+	8
70 To 79	B+	8	B	7
60 To 69	B	7	C+	6
50 To 59	C+	6	C	5
40 To 49	C	5	C	5
<40	F	0	F	0

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U.V. PATEL COLLEGE OF ENGINEERING

BACHELOR OF TECHNOLOGY IN INFORMATION TECHNOLOGY (B.TECH-IT)

Syllabus Details

Effective Year 2024-2025

Program : B.TECH-IT

Total Course : 7

Total Elective Course : 2

Total Audit Course : 0

Semester : V

Total Regular Course : 5

Total Open Course : 0

#	CourseCode	Course Title	Teaching Scheme				Examination Scheme				
			CREDIT			TOTAL HOURS	TH		PR		TOTAL
			TH	PR/TW	TOTAL		Internal	External	Internal	External	
1	2CEIT507	COMPUTER ARCHITECTURE & ORGANIZATION	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
2	2CEIT503	COMPUTER NETWORKS	4.00	1.00	5.00	6.00	0/40	0/60	0/30	0/20	150
3	2CEIT505	CAPSTONE PROJECT-I	0.00	1.00	1.00	2.00	-	-	0/30	0/20	50
4	2CEIT506	MACHINE LEARNING	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
5		ELECTIVE SUBJECT - 1 (ELECTIVE-I)	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
6		ELECTIVE SUBJECT - 1 (ELECTIVE-II)	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
7	2HS5201	APTITUDE & SKILL BUILDING-I	0.00	1.00	1.00	2.00	-	-	0/30	0/20	50
			16.00	7.00	23.00	30.00					850

List of Elective Subjects

Group Name	Course Code	Name of Course
ELECTIVE-I	2CEIT5PE3	QUANTUM COMPUTING
	2CEIT5PE11	CRYPTOGRAPHY AND NETWORK SECURITY
	2CEIT5PE13	OBJECT ORIENTED ANALYSIS AND DESIGN
	2CEIT5PE2	COMPUTER GRAPHICS & VISUALIZATION
	2CEIT5PE9	FUNDAMENTALS OF MANAGEMENT
	2CEIT5PE17	SOFTWARE PACKAGES
ELECTIVE-II	2CEIT5PE10	3D PRINTING AND DESIGN
	2CEIT5PE12	FORENSIC AND CYBER LAW
	2CEIT5PE14	SOFTWARE VALIDATION & TESTING
	2CEIT5PE6	HUMAN COMPUTER INTERACTION
	2CEIT5PE16	INNOVATION & ENTREPRENEURSHIP
	2CEIT5PE15	PROGRAMMING WITH .NET
	2CEIT5PE1	ADVANCED JAVA
	2CEIT5PE18	MOBILE APPLICATION DEVELOPMENT

Examination Grade Range & Value

Marks/Perc. Range	Grade (Regular)	Grade Point (Regular)	Grade (Remedial)	Grade Point (Remedial)
90>=	A+	10	A	9
80 To 89	A	9	B+	8
70 To 79	B+	8	B	7
60 To 69	B	7	C+	6
50 To 59	C+	6	C	5
40 To 49	C	5	C	5
<40	F	0	F	0

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BACHELOR OF TECHNOLOGY IN INFORMATION TECHNOLOGY (B.TECH-IT)

Syllabus Details

Effective Year 2024-2025

Program : B.TECH-IT
 Total Course : 7
 Total Elective Course : 2
 Total Audit Course : 0

Semester : VI
 Total Regular Course : 5
 Total Open Course : 0

#	CourseCode	Course Title	Teaching Scheme				Examination Scheme				
			CREDIT			TOTAL HOURS	TH		PR		TOTAL
			TH	PR/TW	TOTAL		Internal	External	Internal	External	
1	2CEIT601	THEORY OF COMPUTATION	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
2	2CEIT606	ARTIFICIAL INTELLIGENCE	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
3	2CEIT603	CLOUD COMPUTING	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
4	2CEIT605	CAPSTONE PROJECT-II	0.00	1.00	1.00	2.00	-	-	0/30	0/20	50
5		ELECTIVE SUBJECT - 1 (ELECTIVE-III)	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
6		ELECTIVE SUBJECT - 1 (ELECTIVE-IV)	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
7	2HS6201	APTITUDE & SKILL BUILDING-II	0.00	1.00	1.00	2.00	-	-	0/30	0/20	50
			15.00	7.00	22.00	29.00					850

List of Elective Subjects

Group Name	Course Code	Name of Course
ELECTIVE-III	2CEIT6PE10	BLOCKCHAIN TECHNOLOGIES
	2CEIT6PE9	INTERNET OF THINGS
	2CEIT6PE11	ROBOTICS PROCESS AUTOMATION
	2CEIT6PE13	INTRODUCTION TO GAME THEORY
	2CEIT6PE8	IT INFRASTRUCTURE & MANAGEMENT
	2CEIT6PE1	WEB TECHNOLOGY
ELECTIVE-IV	2CEIT6PE7	ETHICAL HACKING
	2CEIT6PE6	ROBOTICS
	2CEIT6PE12	ADVANCED SOFTWARE ENGINEERING
	2CEIT6PE14	AUGMENTED REALITY AND VIRTUAL REALITY
	2CEIT6PE15	FUNDAMENTALS OF ECONOMICS
	2CEIT6PE16	ADVANCED PROGRAMMING WITH.NET
	2CEIT6PE17	PROGRAMMING WITH FLUTTER

Examination Grade Range & Value

Marks/Perc. Range	Grade (Regular)	Grade Point (Regular)	Grade (Remedial)	Grade Point (Remedial)
90>=	A+	10	A	9
80 To 89	A	9	B+	8
70 To 79	B+	8	B	7
60 To 69	B	7	C+	6
50 To 59	C+	6	C	5
40 To 49	C	5	C	5
<40	F	0	F	0

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BACHELOR OF TECHNOLOGY IN INFORMATION TECHNOLOGY (B.TECH-IT)

Syllabus Details

Effective Year 2024-2025

Program : B.TECH-IT

Semester : VII

Total Course : 6

Total Regular Course : 4

Total Elective Course : 2

Total Open Course : 0

Total Audit Course : 0

#	CourseCode	Course Title	Teaching Scheme				Examination Scheme				
			CREDIT			TOTAL HOURS	TH		PR		TOTAL
			TH	PR/TW	TOTAL		Internal	External	Internal	External	
1	2CEIT701	COMPILER DESIGN	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
2	2CEIT702	BIG DATA ANALYTICS	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
3	2CEIT703	CAPSTONE PROJECT-III	0.00	6.00	6.00	12.00	-	-	0/60	0/40	100
4		ELECTIVE SUBJECT - 1 (ELECTIVE-V)	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
5		ELECTIVE SUBJECT - 1 (ELECTIVE-VI)	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
6	2CEIT704	SOFT SKILLS	0.00	1.00	1.00	2.00	-	-	0/30	0/20	50
			12.00	11.00	23.00	34.00					750

List of Elective Subjects

Group Name	Course Code	Name of Course
ELECTIVE-V	2CEIT78PE1	DEEP LEARNING
	2CEIT78PE2	BLOCKCHAIN TECHNOLOGIES
	2CEIT78PE3	FUNDAMENTALS OF IMAGE PROCESSING
	2CEIT78PE4	MOBILE COMPUTING
	2CEIT78PE5	SEARCH ENGINE OPTIMIZATION
	2CEIT78PE6	VIRTUAL REALITY
ELECTIVE-VI	2CEIT78PE7	NATURAL LANGUAGE PROCESSING
	2CEIT78PE8	FORENSICS & CYBER LAW
	2CEIT78PE9	ADVANCED ALGORITHMS
	2CEIT78PE10	FOG COMPUTING
	2CEIT78PE11	FAULT TOLERANT SYSTEMS
	2CEIT78PE12	HIGH PERFORMANCE COMPUTING
	2CEIT78PE13	COMPUTER VISION

Examination Grade Range & Value

Marks/Perc. Range	Grade (Regular)	Grade Point (Regular)	Grade (Remedial)	Grade Point (Remedial)
90>=	A+	10	A	9
80 To 89	A	9	B+	8
70 To 79	B+	8	B	7
60 To 69	B	7	C+	6
50 To 59	C+	6	C	5
40 To 49	C	5	C	5
<40	F	0	F	0

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BACHELOR OF TECHNOLOGY IN INFORMATION TECHNOLOGY (B.TECH-IT)

Syllabus Details

Effective Year 2024-2025

Program : B.TECH-IT

Semester : VIII

Total Course : 4

Total Regular Course : 0

Total Elective Course : 4

Total Open Course : 0

Total Audit Course : 0

#	CourseCode	Course Title	Teaching Scheme				Examination Scheme				
			CREDIT			TOTAL HOURS	TH		PR		TOTAL
			TH	PR/TW	TOTAL		Internal	External	Internal	External	
1		ELECTIVE SUBJECT - 1 (TRAINING)	0.00	20.00	20.00	40.00	-	-	0/200	0/200	400
2		ELECTIVE SUBJECT - 1 (MAJOR PROJECT)	0.00	12.00	12.00	24.00	-	-	0/150	0/150	300
3		ELECTIVE SUBJECT - 2 (MAJOR PROJECT)	0.00	12.00	12.00	24.00	-	-	0/150	0/150	300
4		ELECTIVE SUBJECT - 3 (MAJOR PROJECT)	0.00	12.00	12.00	24.00	-	-	0/150	0/150	300
			0.00	56.00	56.00	112.00					1300

List of Elective Subjects

Group Name	Course Code	Name of Course
TRAINING	2CEIT801	INDUSTRIAL TRAINING
MAJOR PROJECT	2CEIT802	MAJOR PROJECT
	2CEIT78PE4	MOBILE COMPUTING
	2CEIT78PE10	FOG COMPUTING

Examination Grade Range & Value

Marks/Perc. Range	Grade (Regular)	Grade Point (Regular)	Grade (Remedial)	Grade Point (Remedial)
90>=	A+	10	A	9
80 To 89	A	9	B+	8
70 To 79	B+	8	B	7
60 To 69	B	7	C+	6
50 To 59	C+	6	C	5
40 To 49	C	5	C	5
<40	F	0	F	0