

FACULTY OF ENGINEERING & TECHNOLOGY

U.V. PATEL COLLEGE OF ENGINEERING

BACHELOR OF TECHNOLOGY IN COMPUTER ENGINEERING (ARTIFICIAL INTELLIGENCE)

(B.TECH-CE(AI))
Syllabus Details

Effective Year 2022-2023

Program : B.TECH-CE(AI)

Semester : I

Total Course : 6

Total Regular Course : 6

Total Elective Course : 0

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	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	2ES1113	INTRODUCTION TO AI & ML	0.00	2.00	2.00	4.00	-	-	0/30	0/20	50
			12.00	8.00	20.00	28.00					650

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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(B.TECH-CE(AI))
Syllabus Details

Effective Year 2022-2023

Program : B.TECH-CE(AI)

Total Course : 8

Total Elective Course : 1

Total Audit Course : 0

Semester : II

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	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	2ES1114	DATA ANALYTICS	0.00	1.00	1.00	2.00	-	-	0/30	0/20	50
8		ELECTIVE SUBJECT - 1 (UHV_Elective-I)	2.00	0.00	2.00	2.00	0/100	-	-	-	100
			12.00	9.00	21.00	30.00					800

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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Syllabus Details

Effective Year 2022-2023

Program : B.TECH-CE(AI)

Total Course : 7

Total Elective Course : 1

Total Audit Course : 0

Semester : III

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	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	2ES115	INTRODUCTION TO INDUSTRY 4.0	0.00	1.00	1.00	2.00	-	-	0/30	0/20	50
7		ELECTIVE SUBJECT - 1 (UHV_Elective-II)	2.00	0.00	2.00	2.00	0/100	-	-	-	100
			18.00	7.00	25.00	32.00					850

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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Syllabus Details

Effective Year 2022-2023

Program : B.TECH-CE(AI)

Semester : IV

Total Course : 6

Total Regular Course : 6

Total Elective Course : 0

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	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	2CEIT403	APPLICATION DEVELOPMENT TOOLS	2.00	2.00	4.00	6.00	0/40	0/60	0/30	0/20	150
5	2ES116	PROGRAMMING FOR SCIENTIFIC COMPUTING	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
6	2CEIT405	NOSQL DATABASE SYSTEMS	0.00	1.00	1.00	2.00	-	-	0/30	0/20	50
			15.00	6.00	21.00	27.00					750

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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Syllabus Details

Effective Year 2022-2023

Program : B.TECH-CE(AI)

Semester : V

Total Course : 7

Total Regular Course : 6

Total Elective Course : 1

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	2CEIT501	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	2CEAI501	MACHINE LEARNING	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
4	2CEAI502	COMPUTATIONAL DATA ANALYTICS	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
5	2CEIT504	CAPSTONE PROJECT-I	0.00	1.00	1.00	2.00	-	-	0/30	0/20	50
6		ELECTIVE SUBJECT - 1 (ELECTIVE-I)	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
7	2HS5101	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	2CEIT5PE1	ADVANCED JAVA
	2CEIT5PE2	COMPUTER GRAPHICS & VISUALIZATION
	2CEIT5PE3	QUANTUM COMPUTING
	2CEIT5PE4	SOFTWARE PACKAGES
	2CEIT5PE5	MOBILE APPLICATION DEVELOPMENT
	2CEIT5PE6	HUMAN COMPUTER INTERACTION
	2CEIT5PE7	INNOVATION & ENTREPRENEURSHIP
	2CEIT5PE8	ADVANCED PROGRAMMING WITH .NET
	2CEIT502	SOFTWARE ENGINEERING

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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Syllabus Details

Effective Year 2022-2023

Program : B.TECH-CE(AI)

Semester : VI

Total Course : 7

Total Regular Course : 6

Total Elective Course : 1

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	2CEIT601	THEORY OF COMPUTATION	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
2	2CEIT602	ARTIFICIAL INTELLIGENCE	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
3	2CEAI601	DEEP NEURAL NETWORK	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	2CEAI602	NATURAL LANGUAGE PROCESSING	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	2HS6101	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-II	2CEIT6PE3	CRYPTOGRAPHY AND NETWORK SECURITY
	2CEIT6PE5	GAME DESIGN & DEVELOPMENT
	2CEIT6PE6	ROBOTICS
	2CEIT6PE9	INTERNET OF THINGS
	2CEIT603	CLOUD 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

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(B.TECH-CE(AI))
Syllabus Details

Effective Year 2022-2023

Program : B.TECH-CE(AI)

Semester : VII

Total Course : 6

Total Regular Course : 5

Total Elective Course : 1

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	2CEAI701	COMPUTER VISION	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
5		ELECTIVE SUBJECT - 1 (ELECTIVE-III)	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-III	2CEAI702	ML-OPS
	2CEAI703	REINFORCEMENT LEARNING

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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(B.TECH-CE(AI))
Syllabus Details

Effective Year 2022-2023

Program : B.TECH-CE(AI)

Semester : VIII

Total Course : 1

Total Regular Course : 1

Total Elective Course : 0

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	2CEIT801	INDUSTRIAL TRAINING	0.00	20.00	20.00	40.00	-	-	0/200	0/200	400
			0.00	20.00	20.00	40.00					400

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