

**FACULTY OF ENGINEERING & TECHNOLOGY**  
**INSTITUTE OF COMPUTER TECHNOLOGY**  
**BACHELOR OF TECHNOLOGY IN COMPUTER SCIENCE & ENGINEERING (CLOUD BASED APPLICATIONS) (B.TECH-CSE(CBA))**  
**Syllabus Details**

**Effective Year 2022-2023**

**Program** : B.TECH-CSE(CBA)  
**Total Course** : 7  
**Total Elective Course** : 1  
**Total Audit Course** : 1

**Semester** : 1  
**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	2HS101	CALCULUS	4.00	0.00	4.00	4.00	0/40	0/60	-	-	100
2	2CSE101	INTERNET PROGRAMMING	3.00	2.00	5.00	7.00	0/40	0/60	0/60	0/40	200
3	2CSE102	ESSENTIALS OF SOFTWARE FOUNDATION & PROGRAMMING - I	3.00	2.00	5.00	7.00	0/40	0/60	0/60	0/40	200
4	2CSE103	DIGITAL ELECTRONICS	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
5	2CSE105	BASIC ELECTRONICS WORKSHOP	0.00	1.00	1.00	2.00	-	-	0/30	0/20	50
6		AUDIT SUBJECT - 1	0.00	0.00	0.00	2.00	-	-	-	-	0
7		ELECTIVE SUBJECT - 1 (UHV_Elective-I)	2.00	0.00	2.00	2.00	0/100	-	-	-	100
			<b>15.00</b>	<b>6.00</b>	<b>21.00</b>	<b>29.00</b>					<b>800</b>

**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)

**List of Audit Subjects**

Group Name	Course Code	Name of Course
AUDIT	2OS101	CAREER DEVELOPMENT PROGRAM - I

**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**

<b>Program</b>	: B.TECH-CSE(CBA)	<b>Semester</b>	: II
<b>Total Course</b>	: 8	<b>Total Regular Course</b>	: 5
<b>Total Elective Course</b>	: 2	<b>Total Open Course</b>	: 0
<b>Total Audit Course</b>	: 1		

#	CourseCode	Course Title	Teaching Scheme				Examination Scheme				
			CREDIT			TOTAL HOURS	TH		PR		TOTAL
			TH	PR/TW	TOTAL		Internal	External	Internal	External	
1	2HS102	LINEAR ALGEBRA	4.00	0.00	4.00	4.00	0/40	0/60	-	-	100
2	2CSE202	BASICS OF COMMUNICATION SYSTEM	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
3	2CSE203	ESSENTIALS OF SOFTWARE FOUNDATION & PROGRAMMING - II	3.00	2.00	5.00	7.00	0/40	0/60	0/60	0/40	200
4	2CSE204	BASICS OF OPERATING SYSTEM AND SCRIPTING	0.00	2.00	2.00	4.00	-	-	0/60	0/40	100
5	2CSE205	COMPUTER ORGANIZATION	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
6		ELECTIVE SUBJECT - 1 (UHV_Elective-I)	2.00	0.00	2.00	2.00	0/100	-	-	-	100
7		AUDIT SUBJECT - 1	0.00	0.00	0.00	2.00	-	-	-	-	0
			<b>15.00</b>	<b>6.00</b>	<b>21.00</b>	<b>29.00</b>					<b>800</b>

**List of Elective Subjects**

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

**List of Audit Subjects**

Group Name	Course Code	Name of Course
AUDIT	OSCSE101	ELECTRONICS WORKSHOP

**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-CSE(CBA)  
**Total Course** : 7  
**Total Elective Course** : 0  
**Total Audit Course** : 1

**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	2HS306	APPLIED ENGINEERING MATHEMATICS	4.00	0.00	4.00	4.00	0/40	0/60	-	-	100
2	2HS309	ENTREPRENEURSHIP DEVELOPMENT	3.00	0.00	3.00	3.00	0/40	0/60	-	-	100
3	2CSE301	DATABASE MANAGEMENT SYSTEM	4.00	2.00	6.00	8.00	0/40	0/60	0/60	0/40	200
4	2CSE302	DATA STRUCTURES	3.00	2.00	5.00	7.00	0/40	0/60	0/60	0/40	200
5	2CSE303	OBJECT ORIENTED PROGRAMMING	3.00	2.00	5.00	7.00	0/40	0/60	0/60	0/40	200
6	2HS308	SOCIETAL INTERNSHIP	0.00	1.00	1.00	2.00	-	-	0/30	0/20	50
7		AUDIT SUBJECT - 1	0.00	0.00	0.00	1.00	-	-	-	-	0
			<b>17.00</b>	<b>7.00</b>	<b>24.00</b>	<b>32.00</b>					<b>850</b>

**List of Audit Subjects**

Group Name	Course Code	Name of Course
AUDIT	2OS301	PROFESSIONAL SKILL BUILDING - I

**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-CSE(CBA)  
**Total Course** : 7  
**Total Elective Course** : 0  
**Total Audit Course** : 2

**Semester** : IV  
**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	2CSE401	PROBABILITY & STATISTICS	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
2	2CSE402	OPERATING SYSTEM	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
3	2CSE403	FUNCTIONAL PROGRAMMING	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
4	2CSE410	FRONT END TECHNOLOGIES	3.00	2.00	5.00	7.00	0/40	0/60	0/60	0/40	200
5	2CSE411	SOFTWARE ENGINEERING	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
6		AUDIT SUBJECT - 1	0.00	0.00	0.00	2.00	-	-	-	-	0
			<b>15.00</b>	<b>6.00</b>	<b>21.00</b>	<b>29.00</b>					<b>800</b>

**List of Audit Subjects**

Group Name	Course Code	Name of Course
AUDIT	OSCSE102	ANDROID APPLICATION DEVELOPEMENT
	OSCSE103	LANGUAGE PROFICIENCY COURSE

**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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**Effective Year 2022-2023**

<b>Program</b>	: B.TECH-CSE(CBA)	<b>Semester</b>	: V
<b>Total Course</b>	: 6	<b>Total Regular Course</b>	: 5
<b>Total Elective Course</b>	: 1	<b>Total Open Course</b>	: 0
<b>Total Audit Course</b>	: 0		

#	CourseCode	Course Title	Teaching Scheme				Examination Scheme				
			CREDIT			TOTAL HOURS	TH		PR		TOTAL
			TH	PR/TW	TOTAL		Internal	External	Internal	External	
1	2CSE501	SOFTWARE ENGINEERING	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
2	2CSE502	COMPUTER NETWORKS	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
3	2CSE503	ALGORITHM ANALYSIS & DESIGN	3.00	2.00	5.00	7.00	0/40	0/60	0/60	0/40	200
4	2CSE504	SUMMER INTERNSHIP	0.00	2.00	2.00	4.00	-	-	0/60	0/40	100
5	2CSE505	MICROSERVICES	3.00	2.00	5.00	7.00	0/40	0/60	0/60	0/40	200
6		ELECTIVE SUBJECT - 1 (ELECTIVE-I)	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
			<b>15.00</b>	<b>9.00</b>	<b>24.00</b>	<b>33.00</b>					<b>950</b>

**List of Elective Subjects**

Group Name	Course Code	Name of Course
ELECTIVE-I	2CSE50E20	VIRTUALIZATION
	2CSE50E27	DATA SCIENCE & MODELING USING R

**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-CSE(CBA)  
**Total Course** : 6  
**Total Elective Course** : 2  
**Total Audit Course** : 0

**Semester** : VI  
**Total Regular Course** : 4  
**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	2CSE601	THEORY OF COMPUTATION	4.00	0.00	4.00	4.00	0/40	0/60	-	-	100
2	2CSE602	INFORMATION SECURITY	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
3	2CSE605	IT INFRASTRUCTURE MANAGEMENT	0.00	2.00	2.00	4.00	-	-	0/60	0/40	100
4	2CSE606	ENTERPRISE APPLICATION DEVELOPMENT FOR CLOUD	3.00	2.00	5.00	7.00	0/40	0/60	0/60	0/40	200
5		ELECTIVE SUBJECT - 1 (ELECTIVE-II)	2.00	1.00	3.00	4.00	0/40	0/60	0/30	0/20	150
6		ELECTIVE SUBJECT - 1 (ELECTIVE-III)	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
			<b>15.00</b>	<b>7.00</b>	<b>22.00</b>	<b>29.00</b>					<b>850</b>

**List of Elective Subjects**

Group Name	Course Code	Name of Course
ELECTIVE-II	2CSE60E27	DATA MINING & WAREHOUSING
	2CSE60E20	IMAGE PROCESSING
ELECTIVE-III	2CSE60E25	HIGH PERFORMANCE COMPUTING
	2CSE60E14	ARTIFICIAL INTELLIGENCE

**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-CSE(CBA)  
 Total Course : 5  
 Total Elective Course : 1  
 Total Audit Course : 0

Semester : VII  
 Total Regular Course : 4  
 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	2CSE701	COMPILER DESIGN	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
2	2CSE702	MACHINE LEARNING	2.00	1.00	3.00	4.00	0/40	0/60	0/30	0/20	150
3	2CSE709	CLOUD SECURITY	3.00	2.00	5.00	7.00	0/40	0/60	0/60	0/40	200
4	2CSE710	CLOUD COMPUTING ESSENTIALS	3.00	2.00	5.00	7.00	0/40	0/60	0/60	0/40	200
5		ELECTIVE SUBJECT - 1 (ELECTIVE-IV)	3.00	1.00	4.00	5.00	0/40	0/60	0/30	0/20	150
			<b>14.00</b>	<b>7.00</b>	<b>21.00</b>	<b>28.00</b>					<b>850</b>

**List of Elective Subjects**

Group Name	Course Code	Name of Course
ELECTIVE-IV	2CSE70E3	INTERNET OF THINGS
	2CSE70E25	CYBER DEFENCE

**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-CSE(CBA)	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	2CSE801	INDUSTRIAL PROJECT	0.00	16.00	16.00	32.00	-	-	0/200	0/200	400
			<b>0.00</b>	<b>16.00</b>	<b>16.00</b>	<b>32.00</b>					<b>400</b>

**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