



PRATHYUSHA ENGINEERING COLLEGE, CHENNAI
AN AUTONOMOUS INSTITUTION
B. E. COMPUTER SCIENCE AND ENGINEERING (CYBER SECURITY)
CHOICE BASED CREDIT SYSTEM
Curriculum and Syllabus-Regulations-2024

CURRICULUM- 2024

SEMESTER I

S.No	Course Code	Course Title	Category	Hours/ Week				CREDITS	Internal / External %
				L	T	P	R		
1	241GEM112L	INDUCTION TRAINING	MC	-	-	2	-	0	-
THEORY									
1	241LEH101T	PROFESSIONAL ENGLISH – I	HS	3	-	-	-	3	40/60
2	241MAB101T	MATRICES AND CALCULUS	BS	4	-	-	-	4	40/60
3	241PYB101T	ENGINEERING PHYSICS	BS	3	-	-	-	3	40/60
4	241CYB101T	ENGINEERING CHEMISTRY	BS	3	-	-	-	3	40/60
5	241GES101T	PROGRAMMING IN C	ES	3	-	-	-	3	40/60
6	241LEH102T	HERITAGE OF TAMILS	HS	1	-	-	-	1	40/60
PRACTICALS									
7	241GEB111L	PHYSICS & CHEMISTRY LABORATORY	BS	-	-	2	-	1	60/40
8	241LEA111L	COMMUNICATION SKILLS LAB	EEC	-	-	2	-	1	60/40
9	241GES111L	PROGRAMMING IN C LAB	ES	-	-	3	1	2	60/40
10	241GEM111L	IDEA LAB	MC	-	-	2	2	2	60/40
TOTAL CREDITS								23	

SEMESTER – II

S.No	Course Code	Course Title	Category	Hours/ Week				CREDITS	Internal / External%
				L	T	P	R		
THEORY									
1	24ILEH201T	PROFESSIONAL ENGLISH – II	HS	3	-	-	-	3	40/60
2	241MAB201T	LINEAR ALGEBERA AND NUMERICAL METHODS	BS	4	-	-	-	4	40/60
3	241PYB201T	PHYSICS FOR INFORMATION SCIENCE	BS	3	-	-	-	3	40/60
4	241GEB201T	ENVIRONMENTAL SCIENCE FOR COMPUTER SCIENCE ENGINEERING	BS	3	-	-	-	2	40/60
5	241GES201T	PROBLEM SOLVING USING PYTHON	ES	3	-	-	-	3	40/60
6	241LEH202T	TAMILS AND TECHNOLOGY	HS	1	-	-	-	1	40/60
PRACTICALS									
7	241GES211L	BASIC ELECTRICAL AND ELECTRONICS ENGINEERING LABORATORY	ES	-	-	3	1	2	60/40
8	241GES214L	PROBLEM SOLVING USING PYTHON LAB	ES	-	-	3	1	2	60/40
9	241GES212L	VISUALIZATION OF DESIGN AND DRAWING	ES	-	-	3	1	2	60/40
TOTAL CREDITS								22	

SEMESTER – III

S.No	Course Code	Course Title	Category	Hours/ Week				CREDITS	Internal / External%
				L	T	P	R		
THEORY									
1	241MAB301T	DISCRETE MATHEMATICS	BS	4	-	-	-	4	40/60
2	241GES301T	DIGITAL PRINCIPLES AND COMPUTER ORGANIZATION	ES	2	-	2	-	3	50/50
3	241ITC301T	DATA STRUCTURES AND ALGORITHMS	PC	3	-	-	-	3	40/60
4	241GES302T	OBJECT ORIENTED PROGRAMMING	ES	3	-	-	-	3	40/60
5	241ADC301T	FOUNDATIONS OF DATA SCIENCE	PC	3	-	-	-	3	40/60
PRACTICALS									
6	241ITC311L	DATA STRUCTURES AND ALGORITHMS LAB	PC	-	-	3	1	2	60/40
7	241GES311L	OBJECT ORIENTED PROGRAMMING LAB	ES	-	-	3	1	2	60/40
8	241ADC311L	DATA SCIENCE LAB	PC	-	-	3	1	2	60/40
TOTAL CREDITS								22	

SEMESTER – IV

S.No	Course Code	Course Title	Category	Hours/ Week				CREDITS	Internal / External%
				L	T	P	R		
THEORY									
1	241MAB401T	PROBABILITY AND STATISTICS	BS	4	-	-	-	4	40/60
2	241CSC402T	COMPUTER NETWORKS	PC	3	-	-	-	3	40/60
3	241CBC401T	DATABASE MANAGEMENT SYSTEMS AND SECURITY	PC	3	-	-	-	3	40/60
4	241CBC402T	CRYPTOGRAPHY AND CYBER SECURITY	PC	3	-	-	-	3	40/60
5	241CSC404T	OPERATING SYSTEMS	PC	2	-	2	-	3	50/50
6	241GEM902T	INNOVATION COURSE	MC	2	-	-	-	2	40/60
PRACTICALS									
7	241CBC411L	DATABASE MANAGEMENT SYSTEMS AND SECURITY LAB	PC	-	-	3	1	2	60/40
8	241CSC412L	COMPUTER NETWORKS LAB	PC	-	-	3	1	2	60/40
9	241CBC412L	CRYPTOGRAPHY AND CYBER SECURITY	PC	-	-	3	1	2	60/40
TOTAL CREDITS								24	

SEMESTER – V

S.No	Course Code	Course Title	Category	Hours/ Week				CREDITS	Internal / External%
				L	T	P	R		
THEORY									
1	241CSC602T	EMBEDDED SYSTEMS AND IOT	PC	2	-	2	-	3	50/50
2	241CSC502T	ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING	PC	3	-	-	-	3	40/60
3		PROFESSIONAL ELECTIVE I \$	PE	3	-	-	-	3	40/60
4		PROFESSIONAL ELECTIVE II \$	PE	3	-	-	-	3	40/60
5		OPEN ELECTIVE I \$	OE	3	-	-	-	3	40/60
6	241GEM901T	INDIAN KNOWLEDGE SYSTEM	MC	3	-	-	-	2	40/60
PRACTICALS									
7	241CSC511L	ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING LAB	PC	-	-	3	1	2	60/40
8	241INM511I	INDUSTRY SUPPORTED COURSE	EEC	-	-	2	-	1	60/40
TOTAL CREDITS								20	
COURSES FOR HONOURS DEGREE									
1		HONOURS ELECTIVE-I						3	
2		HONOURS ELECTIVE-II						3	
TOTAL CREDITS								6	
COURSES FOR MINOR DEGREE									
1		MINOR ELECTIVE-I	-	-	-	-	-	-	-
2		MINOR ELECTIVE-II	-	-	-	-	-	-	-

SEMESTER – VI

S.No	Course Code	Course Title	Category	Hours/ Week				CREDITS	Internal / External%
				L	T	P	R		
THEORY									
1	241CBC601T	CYBER FORENSICS	PC	3	-	-	-	3	40/60
2	241CBC602T	NETWORK SECURITY	PC	3	-	-	-	3	40/60
3		PROFESSIONAL ELECTIVE III \$	PE	3	-	-	-	3	40/60
4		PROFESSIONAL ELECTIVE IV \$	PE	3	-	-	-	3	40/60
5		OPEN ELECTIVE II \$	OE	3	-	-	-	3	40/60
PRACTICALS									
6	241INM611I	INDUSTRY SUPPORTED COURSE	EEC	-	-	2	-	1	60/40
7	241CBC611L	CYBER FORENSICS LAB	PC	-	-	3	1	2	60/40
8	241CBC612L	NETWORK SECURITY LAB	PC	-	-	3	1	2	60/40
TOTAL CREDITS								20	
COURSES FOR HONOURS DEGREE									
1		HONOURS ELECTIVE-III						3	
2		HONOURS ELECTIVE-IV						3	
TOTAL CREDITS								6	
COURSES FOR MINOR DEGREE									
1		MINOR ELECTIVE-III	-	-	-	-	-	-	-
2		MINOR ELECTIVE-IV	-	-	-	-	-	-	-

SEMESTER – VII

S.No	Course Code	Course Title	Category	Hours/ Week				CREDITS	Internal / External%
				L	T	P	R		
THEORY									
1	241CBC701T	VULNERABILITY ASSESSMENT & PENETRATION TESTING	PC	3	0	0	-	3	40/60
2	241MBH701T	TOTAL QUALITY MANAGEMENT	HS	3	0	0	-	3	40/60
3		PROFESSIONAL ELECTIVE V \$	PE	3	0	0	-	3	40/60
4		PROFESSIONAL ELECTIVE VI \$	PE	3	0	0	-	3	40/60
5		OPEN ELECTIVE III \$	OE	3	0	0	-	3	40/60
PRACTICALS									
6	241CBC711L	VULNERABILITY ASSESSMENT & PENETRATION TESTING LAB	PC	0	0	3	1	2	60/40
7	241INM711I	INDUSTRY SUPPORTED COURSE	EEC	0	0	2	-	1	60/40
8	241CBP711L	MINI PROJECT	EEC	0	0	2	-	2	60/40
9	241CBA711L	INTERNSHIP	EEC	-	-	-	-	2	60/40
TOTAL CREDITS								22	
COURSES FOR HONOURS DEGREE									
1		HONOURS ELECTIVE-V						3	
2		HONOURS ELECTIVE-VI						3	
TOTAL CREDITS								6	
COURSES FOR MINOR DEGREE									
1		MINOR ELECTIVE-V	-	-	-	-	-	-	-
2		MINOR ELECTIVE-VI	-	-	-	-	-	-	-

*Internship Mark provided to COE at the end of Seventh Semester.

\$ Open Elective / Professional Elective courses (maximum of 3) can be dropped upon the Completion/Certification of NPTEL / SWAYAM online courses.

SEMESTER – VIII

S.No	Course Code	Course Title	Category	Hours/ Week				CREDITS	Internal / External%
				L	T	P	R		
PRACTICALS									
1	241CBP811L	PROJECT/STARTUP	EEC	0	0	-	24	12	60/40
TOTAL CREDITS								12	

* Total Credits in each semester must be in between **19 and 24**.

* Total Cumulative Credits must be in between **161 and 165**.

NAME OF THE PROGRAMME: B.E. CSE – CYBER SECURITY											
S.NO	SUBJECT AREA	CREDITS PER SEMESTER								Total credits	% of Credits
		I	II	III	IV	V	VI	VII	VIII		
1	HS	4	4					3		11	6.67
2	BS	11	9	4	4					28	16.97
3	ES	5	9	8						22	13.33
4	PC			10	18	8	10	5		51	30.91
5	PE					6	6	6		18	10.91
6	OE					3	3	3		9	5.45
7	EEC	1				1	1	5	12	20	12.12
8	MC	2			2	2				6	3.64
TOTAL		23	22	22	24	20	20	22	12	165	100

