

Approved Program Structure for

B. E

(Computer Science and Engineering)

Scheme of Instruction and Examination

Proposed for the Academic Years 2021 - 2025
Scheme of Instruction & Examination
B. E. - Computer Science and Engineering

CSE Semester - I										
S. No.	Course Code	Course Title	Scheme of Instruction				Duration in Hrs	Scheme of Examination		Credits
			Hours Per Week			Maximum Marks		CIE	SEE	
			L	T	P / D					
Theory Courses										
1	3BS101HS	Engineering Mathematics - 1	3	1	0	4	40	60	4	
2	3BS104HS	Applied Physics	3	1	0	4	40	60	4	
3	3ES101CS	Programming for Problem Solving	3	0	0	3	40	60	3	
4	3ES101EE	Elements of Electrical and Electronics Engineering	3	0	0	3	40	60	3	
5	3MC101CE	Environmental Science	2	0	0	2	40	60	0	
Practical / Laboratory Courses										
6	3BS151HS	Applied Physics Lab	0	0	3	3	25	50	1.5	
7	3ES151CS	Programming for Problem Solving Lab	0	0	2	2	25	50	1	
8	3ES151EE	Elements of Electrical and Electronics Engineering Lab	0	0	2	2	25	50	1	
9	3ES151CE	Engineering Graphics Lab	1	0	4	5	50	50	3	
Total Credits						28	325	500	20.5	

CSE Semester - II										
S. No.	Course Code	Course Title	Scheme of Instruction				Duration in Hrs	Scheme of Examination		Credits
			Hours Per Week			Maximum Marks		CIE	SEE	
			L	T	P / D					
Theory Courses										
1	3BS202HS	Engineering Mathematics – II	3	1	0	4	40	60	4	
2	3BS206HS	Chemistry	3	1	0	3	40	60	4	
3	3HS201HS	English	2	0	0	4	40	60	2	
4	3ES202CS	Data Structures	3	0	0	3	40	60	3	
Practical / Laboratory Courses										
5	3BS253HS	Chemistry Lab	0	0	3	3	25	50	1.5	
6	3HS251HS	English Lab	0	0	2	2	25	50	1	
7	3ES252CS	Data Structures lab	0	0	2	2	25	50	1	
8	3ES252ME	Engineering Workshop Practice	1	0	4	5	25	50	2	
9	3MC251SP	Yoga / NSS / Sports	0	0	2	2	50		0	
Total Credits						28	260	490	18.5	

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CSE Semester - III

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination		Credits
			L	T	P / D	Contact Hours / week	CIE	SEE	
Theory Courses									
1	3BS305HS	Probability and Statistics	3	1	0	4	40	60	4
2	3ES301EC	Switching Theory and Logic Design	3	0	0	3	40	60	3
3	3PC301CS	Database Management Systems	3	0	0	3	40	60	3
4	3PC302CS	Discrete Mathematics	3	0	0	3	40	60	3
5	3PC303CS	Computer Organization and Microprocessor	3	0	0	3	40	60	3
6	3MC302HS	Essence of Indian Traditional Knowledge	3	0	0	3	40	60	0
Practical / Laboratory Courses									
7	3PC351CS	Database Management Systems Lab	0	0	2	2	40	60	1
8	3PC352CS	Computer Organization and Microprocessor Lab	0	0	2	2	40	60	1
9	3PC353CS	Python Programming Lab	0	0	2*2	4	40	60	2
10	3PW354CS	Skill Development Course– I	0	0	2	2	40	60	1
Total Credits						29	400	600	21

CSE Semester - IV

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination		Credits
			L	T	P / D	Contact Hours / week	CIE	SEE	
Theory Courses									
1	3HS404HS	Optimization and Problem Solving Techniques	3	0	0	3	40	60	3
2	3PC404CS	Data Mining	3	1	0	4	40	60	4
3	3PC405CS	Operating Systems	3	0	0	3	40	60	3
4	3PC406CS	Computer Networks	3	0	0	3	40	60	3
5	3HS403HS	Human Values Professional Ethics	2	0	0	2	40	60	2
Practical / Laboratory Courses									
6	3PC455CS	Operating Systems Lab	0	0	2	2	40	60	1
7	3PC456CS	Computer Networks Lab	0	0	2	2	40	60	1
8	3PC457CS	Java Programming Lab	0	0	2*2	4	40	60	2
9	3PW458CS	Skill Development Course– II	0	0	2	2	40	60	1
Total Credits						25	360	540	20

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CSE Semester - V

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination		Credits
			L	T	P / D	Contact Hours / week	CIE	SEE	
Theory Courses									
1	3PC507CS	Data Science using Python	3	1	0	4	40	60	4
2	3ES502EC	Internet Of Things	3	0	0	3	40	60	3
3	3PC508CS	Software Engineering	3	0	0	3	40	60	3
4	3PE5(01 TO 05)CS	Professional Elective – I	3	0	0	3	40	60	3
5	OE	Open Elective – I	3	0	0	3	40	60	3
6	3MC503HS	Constitution of India	3	0	0	3	40	60	0
Practical / Laboratory Courses									
7	3PC559CS	Data Science using Python Lab	0	0	2	2	40	60	1
8	3ES551EC	Internet of Things lab	0	0	2	2	40	60	1
9	3PW560CS	Summer Internship	-	-	-	-	40	60	2
10	3HS553HS	Soft Skills Lab - I	0	0	2	2	40	60	1
Total Credits						25	400	600	21

CSE Semester – VI

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination		Credits
			L	T	P / D	Contact Hours / week	CIE	SEE	
Theory Courses									
1	3PC609CS	Design and Analysis of Algorithms	3	1	0	4	40	60	4
2	3PC610CS	Artificial Intelligence	3	0	0	3	40	60	3
3	3PC611CS	Automata Theory and Compiler Design	3	1	0	4	40	60	4
4	3PE6(06 TO 10) CS	Professional Elective – II	3	0	0	3	40	60	3
5	OE	Open Elective – II	3	0	0	3	40	60	3
Practical / Laboratory Courses									
6	3PC661CS	Design and Analysis of Algorithms Lab	0	0	2	2	40	60	1
7	3PC662CS	Artificial Intelligence Lab	0	0	2	2	40	60	1
8	3PW663CS	Mini Project	0	0	2	2	40	60	1
9	3HS652HS	Effective Technical Communication(ETCE) Lab	0	0	2	2	40	60	1
Total Credits						25	360	540	21

Professional Elective - I

1	3PE501CS	Mobile Computing
2	3PE502CS	Information Retrieval Systems
3	3PE503CS	Software requirements and Estimation
4	3PE504CS	Principles of Programming Languages
5	3PE505CS	Advanced Databases

Professional Elective - II

1	3PE606CS	Cryptography
2	3PE607CS	Big Data Analytics
3	3PE608CS	Software Architecture
4	3PE609CS	Web Technology
5	3PE610CS	Distributed Databases

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CSE Semester - VII

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination		Credits
			L	T	P / D	Contact Hours / week	CIE	SEE	
Theory Courses									
1	3HS702HS	Managerial Economics and Financial Accounting	3	0	0	3	40	60	3
2	3PC712CS	Information security	3	0	0	3	40	60	3
3	3PC713CS	Machine Learning	3	1	0	4	40	60	4
4	3PE7(11 TO 15) CS	Professional Elective – III	3	0	0	3	40	60	3
5	OE	Open Elective - III	3	0	0	3	40	60	3
Practical / Laboratory Courses									
6	3PC764CS	Information Security Lab	0	0	2	2	40	60	1
7	3PC765CS	Machine Learning Lab	0	0	2	2	40	60	1
8	3PW766CS	Project Work – I	0	0	4	4	40	60	2
9	3PW767CS	Technical Seminar	0	0	2	2	40	60	1
Total Credits						26	360	540	21

CSE Semester - VIII

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination		Credits
			L	T	P / D	Contact Hours / week	CIE	SEE	
Theory Courses									
1	3PC814 CS	Software Project Management	3	0	0	3	40	60	3
2	3PE8(16 TO 20)CS	Professional Elective – IV	3	0	0	3	40	60	3
3	3PE8(21 TO 25)CS	Professional Elective – V	3	0	0	3	40	60	3
Practical / Laboratory Courses									
4	3PW868CS	Project Work – II				16	50	100	8
Total Credits						25	170	280	17

Professional Elective - III

1	3PE711CS	Digital Forensics
2	3PE712CS	Data Visualization
3	3PE713CS	Software Process Management
4	3PE714CS	Scripting Languages
5	3PE715CS	Natural Language Processing

Professional Elective – IV

1	3PE816CS	Cyber security
2	3PE817CS	Deep Learning
3	3PE818CS	Agile Methodologies
4	3PE819CS	Full Stack Development
5	3PE820CS	Cloud Computing

Professional Elective - V

1	3PE821CS	Block Chain
2	3PE822CS	Web and Social Media Analytics
3	3PE823CS	Software Testing Methodologies
4	3PE824CS	Digital marketing and E Commerce
5	3PE825CS	Soft Computing