

1.2.1. Details of courses introduced across all programmes offered during the year

To facilitate multi-disciplinary and global approach expand, the scope of technical education Choice Based Credit System (CBCS)/Elective Course System has been implemented in curriculum.

The following is the list of the programs in which Choice Based Credit System (CBCS)/Elective Course System has been implemented in A.Y. 2023-24.

S.NO	Programme Code	Programme Name	Course Code	Course Name
1	1	CIVIL	23SH1T03	Chemistry
2	1	CIVIL	23SH1T04	Linear Algebra and Calculus
3	3	MECH	23ME1T01	Engineering Graphics
4	2	EEE	23EE1T01	Basic Electrical and Electronics Engineering
5	5	IT	23IT1T01	Introduction to Programming
6	1	CIVIL	23SH1L03	Chemistry Lab
7	2	EEE	23EE1L01	Electrical and Electronics Engineering Workshop
8	5	IT	23IT1L01	Computer Programming Lab
9	5	IT	23IT1L02	IT Workshop
10	1	CIVIL	23PC1P01	Health and Wellness, Yoga and Sports
11	1	CIVIL	23SH2T01	Communicative English
12	2	EEE	23EE2T03	Electrical circuit Analysis-I
13	1	CIVIL	23SH2T02	Engineering Physics
14	1	CIVIL	23SH2T05	Differential equations and Vector Calculus
15	3	MECH	20ME2T02	Basic Civil & Mechanical Engineering
16	3	MECH	23ME2L01	Engineering Workshop
17	1	CIVIL	23SH2L01	Communicative English Lab
18	1	CIVIL	23SH2L02	Engineering Physics Lab
19	2	EEE	23EE2L03	Electrical Circuits – I Lab
20	1	CIVIL	23PC2P01	NCC / NSS / Scouts & Guides / Community service
21	1	CIVIL	20CE5T01	Design of Reinforced concrete structures-CIVIL
22	1	CIVIL	20CE5T02	Hydrology& Irrigation Engineering
23	1	CIVIL	20CE5T03	Engineering Geology & GIS
24	1	CIVIL	20CE5T04	Advanced Structural Analysis
25	1	CIVIL	20OE5T01	Non-conventional Energy sources
26	1	CIVIL	20GE5M01	Constitution of India
27	1	CIVIL	20CE5L01	Transportation Engineering Lab
28	1	CIVIL	20CE5L02	Engineering Geology Lab

29	1	CIVIL	20CE3S03	Skill Advanced Course –RIVET Architecture
30	1	CIVIL	20CE5I01	Summer Internship
31	1	CIVIL	20CE5T04	Advanced Structural Analysis
32	1	CIVIL	20CE5T04	Bridge Engineering
33	1	CIVIL	20CE5T04	Finite Element Analysis
34	1	CIVIL	20OE5T01	Entrepreneurship Development
35	1	CIVIL	20CE6T01	Design of Steel structures
36	1	CIVIL	20CE6T02	Geo Technical Engineering
37	1	CIVIL	20CE6T03	Environmental Engineering
38	1	CIVIL	20CE6T04	Pre-fabricated structures
39	1	CIVIL	20OE6T02	Database Management(IT)
40	1	CIVIL	20GE6M04	Intellictual Property Rights & Patents
41	1	CIVIL	20CE6L01	STAAD Lab
42	1	CIVIL	20CE6L02	Geo Technical Engineering Lab
43	1	CIVIL	20CE6L03	Environmental Engineering Lab
44	1	CIVIL	20CE6S04	Soft Skills Course
45	1	CIVIL	20CE6T04	Pre-fabricated structures
46	1	CIVIL	20OE6T02	Business Environment
47	1	CIVIL	20CE7T01	Traffic Engineering & Management
48	1	CIVIL	20CE7T02	Construction Management & Cost Analysis
49	1	CIVIL	20CE7T03	Foundation Engineering
50	1	CIVIL	20OE7T01	MEMS(ECE)
51	1	CIVIL	20OE7T02	Optimization techniques (ME)
52	1	CIVIL	20HSE7T01	Principles of Economics & Management
53	1	CIVIL	20CE7S05	Skill Advanced course-
54	1	CIVIL	20CE7I02	Summer Internship
55	1	CIVIL	20CE7T03	Foundation Engineering
56	1	CIVIL	20OE7T01	Digital Marketing
57	1	CIVIL	20OE7T02	Human Resource development and OB
58	1	CIVIL	20CE8P01	Project-Project work, seminar and internship in Industry-CIVIL
59	2	EEE	20EE3S01	MATLAB/Simulink-EEE
60	2	EEE	20GE3M01	Constitution of India
61	2	EEE	20EE4T01	Electrical Machines-II
62	2	EEE	20EE4T02	Control Systems
63	2	EEE	20EC4T04	Digital Electronics
64	2	EEE	20CS4T04	Data Structures & Algorithms
65	2	EEE	20SH4T02	Principles of Economics & Management
66	2	EEE	20EE4L01	Electrical Machines Lab-II
67	2	EEE	20EC4L03	Digital Electronics Lab

68	2	EEE	20CS4L04	Data Structures & Algorithms Lab
69	2	EEE	20EE4S01	PLC Programming for Automation
70	2	EEE	20EE5T01	Power Generation and Transmission Systems
71	2	EEE	20EE5T02	Electrical and Electronics Measurements
72	2	EEE	20EC5T04	Analysis of Signals and systems
73	2	EEE	20EC5E01	Industrial Electrical Systems and Energy Utilization(PEC-I)
74	2	EEE	20EE5E02	Special Electrical Machines(PEC-I)
75	2	EEE	20EE5E03	Advanced Control System(PEC-I)
76	2	EEE	20EC5E05	Analog and Digital Communication(PEC-I)
77	2	EEE	20IT5E03	Operating System(PEC-I)
78	2	EEE	20CI5O02	Fundamentals of Artificial Intelligence(OE-I)
79	2	EEE	20GE5M04	Intellectual Property Rights and Patents
80	2	EEE	20EE5L01	Control System and Simulation Lab
81	2	EEE	20EE5L02	Elect. and Electro. Measurements Lab
82	2	EEE	20EE5S01	JAVA Programing (Advanced level skill Oriented courses I)
83	2	EEE	20EE5I01	Summer Internship (During 2 Year)
84	2	EEE	20EE6T01	Power System Analysis and Protection
85	2	EEE	20EE6T02	Power Electronics
86	2	EEE	20EC6T01	Microp processor and Microcontroller
87	2	EEE	20EE6E01	Power System Operation & Control(PEC-II)
88	2	EEE	20EE6E02	Line Commutated and Active Rectifiers(PEC-II)
89	2	EEE	20EE6E03	Instrumentation Engineering(PEC-II)
90	2	EEE	20EC6E05	Digital Signal Processing and Applications(PEC-II)
91	2	EEE	20IT6E06	Database Management System(PEC-II)
92	2	EEE	20IT6O02	JAVA Programing (OE-II)
93	2	EEE	20GE5M04	Professional Ethics and Human Values
94	2	EEE	20EE6L01	Power Systems and Programming Lab
95	2	EEE	20EE6L02	Power Electronics Lab
96	2	EEE	20EC6L04	Microp processor and Microcontroller Lab
97	2	EEE	20EE7E02	DC Drives(PEC-III)
98	2	EEE	20EE7E03	BioMedical Engineering(PEC-III)
99	2	EEE	20EC7E05	VLSI System(PEC-III)
100	2	EEE	20CS7E06	Computer Networks(PEC-III)
101	2	EEE	20EE7E04	Solar and wind Energy Systems (PEC-IV)
102	2	EEE	20EE7E05	AC Drives (PEC-IV)

103	2	EEE	20EE7E06	Digital control system (PEC-IV)
104	2	EEE	20EC7E06	Embedded systems and Applications(PEC-IV)
105	2	EEE	20IT7E06	Principles of Software Engineering(PEC-IV)
106	2	EEE	20EE7E09	Industrial Automation(PEC-V)
107	2	EEE	20EC7E07	Digital Image and Video processing(PEC-V)
108	2	EEE	20IT7E07	Big-Data(PEC-V)-EEE
109		EEE	20EE8P01	Project/Internship in Industry
110	3	MECH	20MEX001	Optimization Techniques
111	3	MECH	20MEX002	Robotics
112	3	MECH	20MEX003	Industrial Management Sciences-ME
113	3	MECH	20MEX004	Automation in Manufacturing
114	3	MECH	20ME5T01	Dynamics of Machinery
115	3	MECH	20ME5T02	Design of Machine Members-I
116	3	MECH	20ME5T03	Instrumentation and Engineering Metrology
117	3	MECH	20ME5E01	IC Engines & Gas Turbines
118	3	MECH	20ME5E04	Industrial Robotics
119	3	MECH	20EE5O05	Industrial Management
120	3	MECH	20GE5M01	Environmental Sciences
121	3	MECH	20ME5L01	Theory of Machines Lab
122	3	MECH	20ME5L02	Instrumentation and Metrology Lab
123	3	MECH	20ME5S01	Skill Oriented Course-III
124	3	MECH	20ME6T01	Design of Machine Members-II
125	3	MECH	20ME6T02	Heat Transfer
126	3	MECH	20ME6T03	Operations Research
127	3	MECH	20ME6E01	Power Plant Engineering
128	3	MECH	20ME6E04	CAD/CAM
129	3	MECH	20EE6O02	Renewable Energy Sources
130	3	MECH	20ME6L01	Heat Transfer Lab
131	3	MECH	20ME6L02	Simulation Lab
132	3	MECH	20ME6L03	Computer Aided Production Drawing Lab
133	3	MECH	20ME6S01	Skill Oriented Course
134	3	MECH	20GE6M04	Intellectual Property Rights
135	3	MECH	20ME7E01	Finite Element Methods
136	3	MECH	20ME7E04	Reliability Engineering
137	3	MECH	20ME7E05	Mechanical Vibrations
138	3	MECH	20ME7E08	Production Planning Control
139	3	MECH	20ME8P01	Major Project work-ME
140	4	ECE	20SH6S01	Soft Skill Courses-ECE

141	4	ECE	20SH3T03	Numerical Methods & Transformations
142	4	ECE	20EC3T01	Electronic Devices and Circuits
143	4	ECE	20EC3T02	Digital System Design
144	4	ECE	20EC3T03	Signals and Systems
145	4	ECE	20SH3T01	Managerial Economics and Financial Analysis
146	4	ECE	20EC3L01	Electronic Devices and Circuits Lab
147	4	ECE	20EC3L02	Digital System Design Lab
148	4	ECE	20CS3L03	OOP's Through C++ Lab
149	4	ECE	20IT3S01	Skilloriented Course-I
150	4	ECE	20GE3M01	Indian Constitution
151	4	ECE	20EC4T01	Electronic Circuit Analysis
152	4	ECE	20EC4T02	Analog Communication
153	4	ECE	20EC4T03	Electro Magnetic Waves and Transmission Lines
154	4	ECE	20EE4T02	Control Systems
155	4	ECE	20CS4T04	Data Structures
156	4	ECE	20EC4L01	Electronic Circuit Analysis Lab
157	4	ECE	20EC4L02	Analog Communication Lab
158	4	ECE	20CS4L04	Data Structures using Lab
159	4	ECE	20IT4S01	SkillOrientedCourse-II
160	4	ECE	20EC5T01	Microprocessor and Microcontrollers
161	4	ECE	20EC5T02	Linear IC applications
162	4	ECE	20EC5T03	Antennas and Wave Propagation
163	4	ECE	20EC5E01	ELECTRONIC MEASUREMENTS & INSTRUMENTATION
164	4	ECE	20EC5E02	PULSE AND DIGITAL CIRCUITS
165	4	ECE	20EC5E03	COMPUTER ARCHITECTURE AND ORGANIZATION
166	4	ECE	20EC5E04	Random Variable Stochastic Process
167	4	ECE	20ITX001	Data Base Management System
168	4	ECE	20GE5M04	Intellectual Property Rights and Patents
169	4	ECE	20EC5L01	Microprocessor and Microcontrollers Lab
170	4	ECE	20EC5L02	Linear IC applications Lab
171	4	ECE	20EC5S01	Advanced VLSI
172	4	ECE	20EC5I01	Summer Internship During 2 Year
173	4	ECE	20EC6T02	Digital Signal Processing
174	4	ECE	20EC6T03	VLSI Design
175	4	ECE	20EC6T04	Digital Communications
176	4	ECE	20EC6E01	EMBEDDED SYSTEMS
177	4	ECE	20EC6E02	DATA COMMUNICATIONS

178	4	ECE	20EC6E03	TELECOMMUNICATION SWITCHING NETWORKS
179	4	ECE	20EC6E04	Digital IC Applications.
180	4	ECE	20GE6M02	Professional Ethics and Human Values
181	4	ECE	20EC6L02	Digital Signal Processing Lab
182	4	ECE	20EC6L03	VLSI Design Lab
183	4	ECE	20EC6L04	Digital Communication Lab
184	4	ECE	20EC6S01	Soft Skills
185	4	ECE	20EC7E01	INFORMATION THEORY AND CODING
186	4	ECE	20EC7E02	WIRELESS SENSOR NETWORKS
187	4	ECE	20EC7E03	OPTICAL COMMUNICATIONS
188	4	ECE	20EC7E04	Radar Engineering
189	4	ECE	20EC7E05	SATELLITE COMMUNICATIONS
190	4	ECE	20EC7E06	Low Power VLSI Design
191	4	ECE	20EC7E07	INTERNET OF THINGS
192	4	ECE	20EC7E08	MICRO WAVE ENGINEERING
193	4	ECE	20EC7E09	DIGITAL IMAGE PROCESSING
194	4	ECE	20EC7E10	PHOTONIC DEVICES
195	4	ECE	20EC7E11	CELLULAR MOBILE COMMUNICATION
196	4	ECE	20EC7E12	NANO ELECTRONICS
197	4	ECE	20EC7M01	MANAGEMENT SCIENCE
198	4	ECE	20ECXO01	PRINCIPLES OF COMMUNICATIONS
199	4	ECE	20ECXO02	DIGITAL IMAGE PROCESSING
200	4	ECE	20EC6O03	BIO-MEDICAL ENGINEERING
201	4	ECE	20EC6O04	Design of IoT Systems
202	4	ECE	20ECXO05	MEMS
203	4	ECE	20ECXO06	MECHATRONICS -ECE
204	5	CSE	20CS3T03	Software Engineering-CSE
205	5	CSE	20CS3T05	Data Structures & Algorithms
206	5	CSE	20IT3T01	Object Oriented Programming through Java
207	5	CSE	20IT3T03	Discrete Mathematics
208	5	CSE	20CS3T02	Computer Organization and Architecture
209	5	CSE	20GE3M01	Constitution of India
210	5	CSE	20CS3L02	Object Oriented Analysis and Design Lab
211	5	CSE	20CS3L03	Data Structures & Algorithms Lab
212	5	CSE	20IT3L01	Object Oriented Programming through Java lab
213	5	CSE	20CS3S01	Mobile App Development

214	5	CSE	20SH4T05	Probability & Statistics
215	5	CSE	20CS4T02	Formal Languages and Automata Theory
216	5	CSE	20CS4T01	Database Management Systems
217	5	CSE	20IT4T02	Web Technologies
218	5	CSE	20SH4T01	Managerial Economics and Financial Analysis
219	5	CSE	20CS4L01	Database Management Systems Lab
220	5	CSE	20IT4L02	Web Technologies Lab
221	5	CSE	20CS4L02	Data Visualization Lab
222	5	CSE	20CS4S01	Mongo DB
223	5	CSE	20CDX003	Data Warehousing and Data Mining
224	5	CSE	20CS5T01	Computer Networks
225	5	CSE	20IT5T02	Design and Analysis of Algorithms
226	5	CSE	20IT5T01	Operating systems
227	5	CSE	20EC5OXX	Open Elective-I
228	5	CSE	20CS5EXX	Professional Elective - I
229	5	CSE		1. Data warehousing and Data Mining
230	5	CSE		2. Software Project Management
231	5	CSE		3. Object Oriented Analysis and Design
232	5	CSE		4. Advanced Unix Programming
233	5	CSE		5. Advanced Computer Architecture
234	5	CSE	20GE5M01	Professional Ethics and Human Values
235	5	CSE	20CS5L01	Computer Networks Lab
236	5	CSE	20IT5L02	Unix Operating Systems Lab
237	5	CSE	20CS5S01	Skill Oriented CourseIII/Soft Skill Course
238	5	CSE		Summer Internship 2 Months (Mandatory) after second year (to be evaluated during V semester)
239	5	CSE	20CS6T01	Cryptography and Network Security
240	5	CSE	20CS6T02	Compiler Design
241	5	CSE	20CS6T03	Artificial Intelligence
242	5	CSE	20EC6OXX	Open Elective-II
243	5	CSE	20CS6EXX	Professional Elective - II
244	5	CSE		1. Cloud Computing
245	5	CSE		2. Big Data Analytics
246	5	CSE		3. Machine Learning
247	5	CSE		4. Network Programming
248	5	CSE		5. Internet of Things
249	5	CSE	20GE6M04	IPR & PATENTS
250	5	CSE	20CS6L01	Cryptography and Network Security Lab
251	5	CSE	20CS6L02	Compiler Design Lab
252	5	CSE	20CS6L03	Artificial Intelligence Lab using Python
253	5	CSE	20SH6S01	Soft Skills

254	5	CSE	20CS7E01	Professional Elective - III
255	5	CSE		1. Mobile Computing
256	5	CSE		2. Neural Networks and Soft Computing
257	5	CSE		3. Ad-hoc and Sensor Networks
258	5	CSE		4. Deep Learning Techniques
259	5	CSE		5. Information Retrieval System
260	5	CSE	20CS7E06	Professional Elective - IV
261	5	CSE		1. Distributed systems
262	5	CSE		2. Social Networks & Semantic Web
263	5	CSE		3. Computer Vision
264	5	CSE		4. MOOCS-NPTEL / SWAYAM
265	5	CSE		5. Game Theory
266	5	CSE	20CS7E11	Professional Elective - V
267	5	CSE		1. Block Chain Technologies
268	5	CSE		2. Quantum Computing
269	5	CSE		3. Ethical Hacking
270	5	CSE		4. MOOCS-NPTEL / SWAYAM
271	5	CSE		5. Parallel Algorithms
272	5	CSE	20ME7O01	Open Elective-III – Optimization techniques - ME
273	5	CSE	20EC7O03	Open Elective-IV – Bio Medical Engineering -ECE
274	5	CSE	20SH7E04	Humanities and Social Science Elective – Entrepreneurship Development - MBA
275	5	CSE	20CS7I01	Summer Internship (During 3 years)
276	5	CSE	20CS7S01	Advanced skill-oriented course - II
277	5	CSE	20CS8P01	Major Project Work, Seminar, Internship in industry-CSE
278	12	IT	20IT3T01	Object Oriented Programming through Java-IT
279	12	IT	20IT3T02	Principles of Software Engineering
280	12	IT	20IT3T03	Discrete Mathematics
281	12	IT	20CS3T02	Computer Organization and Architecture
282	12	IT	20CS3T03	Data Structures & Algorithms
283	12	IT	20IT3L01	Object Oriented Programming through Java lab
284	12	IT	20CS3L02	Object Oriented Analysis and Design Lab
285	12	IT	20CS3L03	Data Structures & Algorithms Lab
286	12	IT	20IT3S01	R Programming
287	12	IT	20SH4T01	Probability & Statistics
288	12	IT	20IT4T02	Web Technologies

289	12	IT	20IT4T03	Theory of Computation
290	12	IT	20CS4T01	Database Management Systems
291	12	IT	20SH4T05	Managerial Economics and Financial Analysis
292	12	IT	20IT4L02	Web Technologies Lab
293	12	IT	20CS4L01	Database Management Systems Lab
294	12	IT	20CS4L02	Data Visualization Lab
295	12	IT	20IT4S01	Mongo DB
296	12	IT	20CS5T01	Computer Networks
297	12	IT	20IT5T01	Operating Systems
298	12	IT	20IT5T02	Design and Analysis of Algorithms
299	12	IT	20IT5E02	Software Project Management
300	12	IT	20EC5O01	Principles of Communications
301	12	IT	20GE5M04	Intellectual Property Rights and Patents
302	12	IT	20CS5L01	Computer Networks Lab
303	12	IT	20IT5L01	Unix Operating Systems Lab
304	12	IT	20IT5S01	REACT JS
305	12	IT	20IT5I01	Summert Internship(During 2 Year)
306	12	IT	20CS6T01	Cryptography and Network Security
307	12	IT	20CD6T01	Big Data Analytics
308	12	IT	20IT6T01	Data Mining
309	12	IT	20IT6E01	Cloud Computing and Security
310	12	IT	20EC6O04	Introduction to Internet of Things
311	12	IT	20CS6L01	Cryptography and Network Security Lab
312	12	IT	20CD6L01	Big Data and Hadoop Lab
313	12	IT	20IT6L01	Data Ming Lab
314	12	IT	20SH6S01	Soft Skills
315	12	IT	20IT7E01	Mobile Computing
316	12	IT	20IT7E07	Software Testing Methodologies
317	12	IT	20IT7E10	Block Chain Technologies and Applications
318	12	IT	20ME7O01	Optimization Techniques
319	12	IT	20EC7O03	Bio Medical Engineering
320	12	IT	20SH7E01	Entrepreneurship Development
321	12	IT	20IT7S01	Ethereum
322	12	IT	20IT7I01	Summer Internship (During 3 Year)
323	12	IT	20IT8P01	Project Work / internship in Industry-IT
324	44	CSD	20SH3T05	Probability & Statistics-CSD
325	44	CSD	20CS3T04	Mathematical Foundations of Computer Science
326	44	CSD	20CS3T05	Data Structures & Algorithms
327	44	CSD	20CD3T01	Fundamentals of Data Science
328	44	CSD	20CS3T01	Database Management Systems

329	44	CSD	20GE3M01	Constitution of India
330	44	CSD	20CS3L03	Data Structures & Algorithms Lab
331	44	CSD	20CD3L01	Fundamentals of Data Science Lab
332	44	CSD	20CS3L01	Database Management Systems Lab
333	44	CSD	20CS3S01	Mobile App Development
334	44	CSD	20SH4T03	Numerical Methods & Transformations
335	44	CSD	20IT4T01	Object Oriented Programming Through Java
336	44	CSD	20CS4T02	Formal Languages and Automata Theory
337	44	CSD	20CD4T01	Data warehousing and Mining
338	44	CSD	20SH4T01	Managerial Economics and Financial Analysis
339	44	CSD	20IT4L01	Object Oriented Programming Through Java Lab
340	44	CSD	20CD4L01	Data Mining using Python Lab
341	44	CSD	20CS4L03	R Programming Lab
342	44	CSD	20CS4S01	Mongo DB
343	44	CSD	20IT5T01	Design and Analysis of Algorithms
344	44	CSD	20CI5T02	Machine Learning
345	44	CSD	20IT5T02	Operating Systems
346	44	CSD	20XX5O1X	Open Elective-I
347	44	CSD	20CD5E1X	Professional Elective-I 1. Software Engineering 2. Object Oriented Analysis and Design 3. Principles of Programming Languages 4. Internet of Things
348	44	CSD	20GE5M03	Professional Ethics & Human values
349	44	CSD	20CD5L01	Operating Systems Lab
350	44	CSD	20CI5L02	Machine Learning Lab
351	44	CSD	20CD5S01	Skill Oriented Course – III 2. Google Firebase
352	44	CSD	20CD6T01	Computer Networks
353	44	CSD	20CD6T02	Big Data Analytics
354	44	CSD	20CD6T03	Neural Networks And Deep Learning
355	44	CSD	20XX6O2X	Open Elective- II
356	44	CSD	20CD6E2X	Professional Elective- II 1. Compiler Design 2. Software Project Management 3. Distributed Systems 4. Fundamentals of Robotics
357	44	CSD	20GE6M03	IPR & Patents
358	44	CSD	20CD6L01	Computer Networks Lab
359	44	CSD	20CD6L02	Big Data & Hadoop Lab
360	44	CSD	20CD6P01	Mini Project with Seminar

361	44	CSD	20CD6S01	Skilled Oriented Course - IV 1. Object Recognizagion using AI&ML. 1. Amazon Web Services / DevNet 2. Continuous Integration and Continuous Delivery using DevOps
362	44	CSD	20CD7E3X	Natural Language Processing
363	44	CSD	20CD7E3X	Cryptography and Network Security
364	44	CSD	20CD7E3X	Image and video processing
365	44	CSD	20CD7E3X	Information security
366	44	CSD	20CD7E3X	Block Chain Technologies
367	44	CSD	20CD7E4X	Artificial Intelligence
368	44	CSD	20CD7E4X	Cloud Computing
369	44	CSD	20CD7E4X	Computer Vision
370	44	CSD	20CD7E4X	Human Computer Interaction
371	44	CSD	20CD7E5X	Social Network Analysis
372	44	CSD	20CD7E5X	Recommender Systems
373	44	CSD	20CD7E5X	Data Visualization
374	44	CSD	20XX7O3X	Introduction to Internet of things
375	44	CSD	20XX7O4X	Enterpreneuershiop development
376	44	CSD	20CD7E5X	Text Mining
377	44	CSD	20SH7T01	Management Science
378	44	CSD	20CD7PR01	Industrial/Research Internship 2
379	44	CSD	20CD7S01	Soft Skills
380	44	CSD	20CD8P01	Major Project Work, Seminar, Internship-CSD
381	44	CAI	20SH3T05	Probability & Statistics-CAI
382	44	CAI	20CS3T04	Mathematical Foundations of Computer Science
383	44	CAI	20CS3T05	Data Structures & Algorithms
384	44	CAI	20IT3T01	Object Oriented Programming through Java
385	44	CAI	20CI3T01	Introduction to Artificial Intelligence
386	44	CAI	20GE3M01	Constitution of India
387	44	CAI	20CS3L03	Data Structures &Algorithms Lab
388	44	CAI	20IT3L01	Object Oriented Programming through Java lab
389	44	CAI	20CI3L01	Introduction to Artificial Intelligence Lab
390	44	CAI	20CS3S01	Mobile App Development
391	44	CAI	20SH4T03	Numerical Methods & TransformatioRens
392	44	CAI	20CI4T01	Computer Organization
393	44	CAI	20CS4T01	Database Management Systems
394	44	CAI	20CS4T02	Formal Languages and Automata Theory

395	44	CAI	20SH4T01	Managerial Economics and Financial Accountancy
396	44	CAI	20CS4L01	Database Management Systems Lab
397	44	CAI	20CI4L01	Web Application Development Lab
398	44	CAI	20CS4L03	R Programming Lab
399	44	CAI	20CI4S01	Fundamentals of Robotics
400	44	CAI	Minor	Introduction to Artificial Intelligence
401	44	CAI	20IT5T01	Design and Analysis of Algorithms
402	44	CAI	20CI5T02	Machine Learning
403	44	CAI	20IT5T02	Operating Systems
404	44	CAI	20CI5E1X	Professional Elective -1 1. Software Engineering 2. Compiler Design 3. Data Visualization 4. Artificial Neural Networks
405	44	CAI	20XX5O1X	Open Elective -1
406	44	CAI	20CI5S01	Skill Oriented Course – III
407	44	CAI	20GE5C03	Professional Ethics and Human Values
408	44	CAI		Summer Internship one Month (Mandatory) after second year(to be evaluated during V Semester)
409	44	CAI	20CI5L02	Machine Learning Lab
410	44	CAI	20IT5L02	Operating Systems Lab
411	44	CAI	Minor	Machine Learning\$
412	44	CAI	20CD6T01	Computer Networks
413	44	CAI	20CI6T01	Deep Learning
414	44	CAI	20CI6T02	Expert Systems
415	44	CAI	20CI6E2X	Professional Elective -2 1. Software Project Management 2. Distributed Systems 3. Internet of Things 4. Data Warehousing and Data Mining
416	44	CAI	20XX6O2X	Open Elective-II
417	44	CAI	20CI6S01	Skill Oriented Course – IV
418	44	CAI	20GE6M03	Intellectual property rights and patents
419	44	CAI	20CI6L01	Deep Learning Lab
420	44	CAI	20CI6L02	Computer Networks Lab
421	44	CAI	20CI6P01	Mini Project with seminar
422	44	CAI	Minor	Deep Learning\$

423	43	CAI	20CI7E3X	Professional Elective-III 1. Reinforcement Learning 2. Soft Computing 3. Cryptography and Network Security 4. NOSQL Databases 5. Natural Language Processing
424	43	CAI	20CI7E4X	Professional Elective-IV 1. Robotic Process Automation 2. Cloud Computing 3. Big Data Analytics 4. Block Chain Technologies 5. Image & Video Analytics
425	43	CAI	20CI7E5X	Professional Elective-V 1. Social Network Analysis 2. Recommender Systems 3. Computer vision 4. Mining Massive Data Sets 5. Semantic Web
426	43	CAI	20XX704X	Open Elective - IV
427	43	CAI	20SH70XX	Management Science
428	43	CAI	20CI7S01	Skill Oriented Course -V
429	43	CAI	Minor	Reinforcement Learning\$ Minor courses through SWAYAM
430	43	CAI	20CI8P1	Project work - Phase II



Principal

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