

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

SCHOOL OF ENGINEERING AND TECHNOLOGY

COURSE STRUCTURE - CSE(Batch 2020-24)												
B.Tech-COMPUTER SCIENCE AND ENGINEERING(IOT)												
I SEMESTER - CHEMISTRY CYCLE												
Sl. NO.	Course Code	Course Type	Course Name	Hours			Total Marks	Credits			Total Credits	Honours Credits
				L	T	P		L	T	P		
1	MA131	BSC	Mathematics - I	3	0	0	100	3	0	0	3	
2	CH132P	BSC	Chemistry	3	0	2	100	3	0	1	4	
3	EC133P	ESC	Basic Electronics	3	0	2	100	3	0	1	4	
4	CS134P	ESC	Computer Programming	3	0	2	100	3	0	1	4	
5	ME135	ESC	Basic Mechanical Engineering and Nano science	3	0	0	100	3	0	0	3	
6	TE136P	HSMC	Technical English	1	0	2	50	1	0	1	2	
7	ME 151	BSC	Workshop Practice Lab	0	0	2	50	0	0	1	1	
8	HE171		Holistic Education-I	1	0	0	---	1	0	0	1	
			Total	17	0	10	600	17	0	5	22	0

I SEMESTER - PHYSICS CYCLE												
Sl. NO.	Course Code	Course Type	Course Name	Hours			Total Marks	Credits			Total Credits	Honours Credits
				L	T	P		L	T	P		
1	MA131	BSC	Mathematics - I	3	0	0	100	3	0	0	3	
2	PH132P	BSC	Physics	3	0	2	100	3	0	1	4	
3	EE133P	ESC	Basic Electrical Engineering	3	0	2	100	3	0	1	4	

4	CE134P	ESC	Basics of Civil Engineering & Engineering Mechanics	3	0	2	100	3	0	1	4	
5	EG135P	ESC	Engineering Graphics	2	0	2	100	2	0	1	3	
6	BS136	BSC	Bio Science	2	0	0	50	2	0	0	2	
7	HE171		H o l i s t i c Education-I	1	0	0	---	1	0	0	1	
			Total	17	0	8	550	17	0	4	21	0

II SEMESTER - CHEMISTRY CYCLE												
Sl.N O.	Course Code	Course Type	Course Name	Hours			Total Marks	Credits			Total Credits	Honours Credits
				L	T	P		L	T	P		
1	MA231	BSC	Mathematics - II	3	0	0	100	3	0	0	3	
2	CH232P	BSC	Chemistry	3	0	2	100	3	0	1	4	
3	EC233P	ESC	Basic Electronics	3	0	2	100	3	0	1	4	
4	CS234P	ESC	C o m p u t e r Programming	3	0	2	100	3	0	1	4	
5	ME235	ESC	Basic Mechanical Engineering and Nano science	3	0	0	100	3	0	0	3	
6	TE236P	HSMC	T e c h n i c a l English	2	0	0	50	2	0	0	2	
7	ME 251	BSC	W o r k s h o p Practice Lab	0	0	2	50	0	0	1	1	
8	HE171		H o l i s t i c Education-I	1	0	0	---	1	0	0	1	
			Total	18	0	8	600	18	0	4	22	0
II SEMESTER - PHYSICS CYCLE												

Sl.N O.	Course Code	Course Type	Course Name	Hours			Total Mark s	Credit s			Total Credi ts	Honou rs Credits
				L	T	P		L	T	P		
1	MA231	BSC	Mathematics - II	3	0	0	100	3	0	0	3	
2	PH232P	BSC	Physics	3	0	2	100	3	0	1	4	
3	EE233P	ESC	Basic Electrical Engineering	3	0	2	100	3	0	1	4	
4	CE234P	ESC	Basics of Civil Engineering & Engineering Mechanics	3	0	2	100	3	0	1	4	
5	EG235P	ESC	Engineering Graphics	2	0	2	100	2	0	1	3	
6	BS 236	BSC	Bio Science	2	0	0	50	2	0	0	2	
7	HE271		H o l i s t i c Education-II	1	0	0	---	1	0	0	1	
			Total	17	0	8	550	17	0	4	21	0

III SEMESTER												
Sl. NO.	Course Code	Course Type	Course Name	Hours			Total Marks	Credits			Total Credits	Honours Credits
				L	T	P		L	T	P		
1	CS331P	PCC	Database Management Systems	3	0	2	100	3	0	1	4	
2	CS332P	PCC	Data Structures and Algorithms	3	0	2	100	3	0	1	4	
3	DA331P	PCC	Statistical Foundation for Big Data	3	0	0	100	3	0	0	3	
4	DA332P	PCC	Data Acquisition & Data Visualization	3	0	0	100	3	0	0	3	
5	MA334	BSC	Discrete Mathematics	3	0	0	100	3	0	0	3	
6	MC321	MC	Cyber Security	2	0	0	50	0	0	0	0	
7	HS311	HSMC	Technical Writing	2	0	0	50	2	0	0	2	
8	HOL312		Holistic Education-III	1	0	0	---	1	0	0	1	
			Total	20	0	4	600	18	0	2	20	0

IV SEMESTER												
Sl. NO.	Course Code	Course Type	Course Name	Hours			Total Marks	Credits			Total Credits	Honours Credits
				L	T	P		L	T	P		
1	CS431	PCC	Probability and Queuing Theory	3	0	0	100	3	0	0	3	
2	CS432P	PCC	Operating Systems	3	0	2	100	3	0	1	4	

3	CS433P	PCC	Programming Paradigm	3	0	2	100	3	0	1	4	
4	CS435P	PCC	Computer Organization & Architecture	3	0	2	100	3	0	1	4	
5	AIML451	PCC	Python Laboratory	0	0	2	50	0	0	1	1	
6	HS436	HSMC	Professional Ethics	3	0	0	100	3	0	0	3	
7	MC422	MC	Environmental Science	2	0	0	50	0	0	0	0	
8	HOL411		H o l i s t i c Education-IV	1	0	0	-	1	0	0	1	
			Total	21	0	6	650	16	0	4	20	0

V SEMESTER												
Sl. NO.	Course Code	Course Type	Course Name	Hours			Total Marks	Credits			Total Credits	Honours Credits
				L	T	P		L	T	P		
1	CS531P	PCC	C o m p u t e r Networks	3	0	2	100	3	0	1	4	
2	DA533	PCC	D a t a Warehousing	3	0	0	100	3	0	0	3	
3	CS533P	PCC	D e s i g n a n d Analysis of Algorithms	3	0	2	100	3	0	1	4	
4	CS541	PEC	P r o g r a m Elective - 1	3	0	0	100	3	0	0	3	
5	CS561	OE	Open Elective - 1-(Global)	2	0	0	50	2	0	0	2	
6	CS512	HSMC	P r o j e c t Management & Finance	3	0	0	100	3	0	0	3	

7	CS581	PROJ	Internship - 1	0	0	2	50	0	0	1	1	
8	HOXX54 1	HONS	H o n o u r s Elective - I	3	0	2	-	3	0	1	-	4
			Total	17	0	6	600	17	0	3	20	4

VI SEMESTER												
Sl. NO.	Course Code	Cours e Type	Course Name	Hours			Total Mark s	Credits			Tota l Cre dits	Honou rs Credits
				L	T	P		L	T	P		
1	DA634P	PCC	Business Intelligence	3	0	2	100	3	0	1	4	
2	DA635P	PCC	Intro to Data Mining	3	0	2	100	3	0	1	4	
3	DA636P	PCC	Big Data Analytics	3	0	2	100	3	0	1	4	
4	CS662	OE	Open Elective -2(Global Elective)	3	0	0	100	3	0	0	3	
6	CS642	PEC	Program Elective - 2	3	0	0	100	3	0	0	3	
7	HOXX64 1	HONS	Honours Elective - II	3	0	2	-	3	0	1	-	4
8	HOXX64 2	HONS	Honours Elective - III	3	0	2	-	3	0	1	-	4
			Total	18	0	4	500	15	0	3	18	8

VII SEMESTER									
Sl.	Course Code	Cours e Type	Course Name	Hours	Total Mark s	Credits	Tota l Cre dits	Honou rs Credits	

NO				L	T	P		L	T	P		
1	DA737	PCC	Web Analytics	3	0	0	100	3	0	0	3	
2	CS744	PEC	Program Elective - 4	3	0	0	100	3	0	1	4	
3	CS763	OE	Open Elective - 3	3	0	0	100	3	0	0	3	
5	CS764	OE	Open Elective - 4	3	0	0	100	3	0	0	3	
6	CS781	PROJ	Internship - 2	0	0	2	50	0	0	1	1	
7	CS782	PROJ	Service Learning	0	0	4	50	0	0	2	2	
8	CS783	PROJ	Project Phase-I	0	0	6	100	0	0	3	3	
9	HOXX74 1	HONS	Honours Elective - IV	3	0	2	-	3	0	1	-	4
10	HOXX74 2	HONS	Honours Elective - V	3	0	2	-	3	0	1	-	4
			Total	12	0	12	600	12	0	6	18	8

VIII SEMESTER												
Sl. NO	Course Code	Course Type	Course Name	Hours			Total Marks	Credits			Total Credits	Honours Credits
				L	T	P		L	T	P		
1	CS845	PEC	Program Elective - 5	3	0	0	100	3	0	0	3	
2	CS846	PEC	Program Elective - 6	3	0	0	100	3	0	0	3	
3	CS881	PROJ	Project Phase-II	0	0	18	300	0	0	9	9	
4	MC823	MC	Constitution of India	2	0	0	100	0	0	0	0	
			Total	8	0	18	600	6	0	9	15	0

CREDIT DETAILS	
Semester	B.Tech-CSE-AI.ML
I	22
II	21
III	20
IV	22
V	20
VI	17
VII	18
VIII	15
TOTAL CREDITS	155

CS561-OPEN ELECTIVE - 1	
SUBJECT	DEPARTMENT
DANCE COURSE	Department of Theatre and Performing Arts
THEATRE DIRECTION	Department of Theatre and Performing Arts
THEATRE PLAY	Department of Theatre and Performing Arts
VOICE IMPROVEMENT / VOCAL THERAPY	Department of Music
DIGITAL WRITING	Department of Media Studies
DIGITAL MEDIA	Department of Media Studies
INTELLECTUAL PROPERTY RIGHTS	School of Law
PROFESSIONAL PSYCHOLOGY	Department of Psychology
ORGANISATION BEHAVIOUR	Department of Social Work
CORPORATE SOCIAL RESPONSIBILITY	Department of Social Work
SOCIAL WELFARE ADMINISTRATION	Department of Social Work
CREATIVITY AND INNOVATION	Centre for Digital Innovation
LANGUAGES - FRENCH	Department of languages

GERMAN	Department of languages
JAPANESE	Department of languages
KOREAN	Department of languages
ASIAN CUISINE	Department of Hotel Management
IMAGINEERING	Department of Hotel Management
DIGITAL MARKETING	Institute of Management
DATA ANALYTICS THROUGH SPSS	Institute of Management
SELLING WITH EMOTIONAL INTELLIGENCE	Institute of Management
LEARNING THROUGH CASE STUDY	Institute of Management

OPEN ELECTIVE										
CS662-OPEN ELECTIVE - 2 (Global Elective)										
Sl.NO	Course Code	Course Name	Hours			Total Marks	Credits			Total Credits
			L	T	P		L	T	P	
1	CS662E01	Web Programming Concepts	2	0	2	100	2	0	1	3
2	CS662E02	Java Programming	2	0	2	100	2	0	1	3
3	CS662E03	Software Testing Techniques	2	0	2	100	2	0	1	3
4	CS662E04	Introduction to Cloud Computing	2	0	2	100	2	0	1	3
5	CS662E05	Introduction to Data Science	2	0	2	100	2	0	1	3
6	CS662E06	Data Structures	2	0	2	100	2	0	1	3
7	CS662E07	Python for Engineers*	2	0	2	100	2	0	1	3
8	CS662E08	Machine learning	2	0	2	100	2	0	1	3
9	CS662E09	Cryptography and Network security	2	0	2	100	2	0	1	3
10	CS662E10	Service Oriented Architecture	2	0	2	100	2	0	1	3
CS763- OPEN ELECTIVE - 3										

1	CS763E01	Software Process and Project Management	3	0	0	100	3	0	0	3
2	CS763E02	Software Quality Management	3	0	0	100	3	0	0	3
3	CS763E03	Web Services and Service Oriented Architecture	3	0	0	100	3	0	0	3
4	CS763E04	Software Requirement Estimation	3	0	0	100	3	0	0	3
CS764-OPEN ELECTIVE - 4										
1	CS764E01	Pattern Recognition	3	0	0	100	3	0	0	3
2	CS764E02	Wireless Networks	3	0	0	100	3	0	0	3
3	CS764E03	Software Project Management	3	0	0	100	3	0	0	3
4	CS764E04	Natural Language Processing	3	0	0	100	3	0	0	3
5	CS764E05	Operational Research	3	0	0	100	3	0	0	3
6	CS764E06	Bio Informatics	3	0	0	100	3	0	0	3
7	CS764E07	Microprocessor and micro controller	2	0	2	100	2	0	1	3
8	CS764E08	Digital Signal Processing	2	0	2	100	2	0	1	3
9	CS764E09	Software Testing	2	0	2	100	2	0	1	3
10	CS764E10	Information Retrieval	2	0	2	100	2	0	1	3
11	CS764E11	Software Coding Practices	2	0	2	100	2	0	1	3

PROGRAM ELECTIVE					
CS541- PROGRAM ELECTIVE - 1					
			Hours	Total	Credits

Sl.NO.	Course Code	Course Name	L	T	P	Marks	L	T	P	Total Credits
1	CS541E01	Computer Graphics with Open GL	3	0	0	100	3	0	0	3
2	CS541E02	Internet and web programming	3	0	0	100	3	0	0	3
3	CS541E03	Foundation of web science	3	0	0	100	3	0	0	3
4	CS541C	Group-I	3	0	0	100	3	0	0	3
CS642- PROGRAM ELECTIVE - 2										
1	CS642E01	Mobile Application Development	3	0	0	100	3	0	0	3
2	CS642E02	Real Time Systems	3	0	0	100	3	0	0	3
3	CS642E03	Advanced Databases	3	0	0	100	3	0	0	3
4	CS642E04	Computer Oriented Numerical Analysis	3	0	0	100	3	0	0	3
5	CS642E05	Object Oriented Analysis and Design	3	0	0	100	3	0	0	3
6	CS642E06	System Software	3	0	0	100	3	0	0	3
7	CS642E07	Data warehousing and Data mining*	3	0	0	100	3	0	0	3
8	IT642E01	Design patterns *	3	0	0	100	3	0	0	3
9	CS642C	Group-II	3	0	0	100	3	0	0	3
CS642E07 - This course is open only for CSE students.										
IT642E01- This course is open only for IT students.										
CS744- PROGRAM ELECTIVE - 4										
1	CS744E01	Information Storage and Management	3	0	0	100	3	0	0	3
2	CS744E02	Data Base Administration	3	0	0	100	3	0	0	3
3	CS744E03	Network Storage Technologies	3	0	0	100	3	0	0	3
4	CS744E04	Network Administration	3	0	0	100	3	0	0	3
5	CS744E05	Research Methodology	3	0	0	100	3	0	0	3
CS845- PROGRAM ELECTIVE - 5										
1	CS845E01	Quantum Computing	3	0	0	100	3	0	0	3

2	CS845E02	Mobile Computing	3	0	0	100	3	0	0	3
3	CS845E03	Parallel Computing	3	0	0	100	3	0	0	3
4	CS845E04	Grid Computing	3	0	0	100	3	0	0	3
5	CS845E05	Introduction to Data mining	3	0	0	100	3	0	0	3
CS846- PROGRAM ELECTIVE - 6										
1	CS846E01	Computer Aided Decision Support Systems	3	0	0	100	3	0	0	3
2	CS846E02	Soft Computing	3	0	0	100	3	0	0	3
3	CS846E03	Introduction to Robotics	3	0	0	100	3	0	0	3
4	CS846E04	High Performance Computing	3	0	0	100	3	0	0	3
5	CS846E05	Digital Image Processing	3	0	0	100	3	0	0	3
CS782-Service Learning										
1	CS782E01	Free and Open Source Software	0	0	4	50	0	0	2	2
2	CS782E02	Digital Security and Principles	0	0	4	50	0	0	2	2