

B. Tech (CSE) -CURRICULUM(KITSW-URR24)

SEMESTER-WISE CURRICULUM WITH SCHEME OF INSTRUCTIONS

Abbreviations

L	Lecture Hour	O	Outside the Class Work (Self Study) Hours
T	Tutorial Hour	E	Total Engagement in Hours
P	Practical Hour	C	Credit Assigned

I SEMESTER

Stream – I

Sl. No.	Category	Course Code	Course Title	Lectures / week					Credits
				L	T	P	O	E	
-	IKSC	U24IK100	U24SK100 AICTE Mandated Student Induction Programme (Universal Human Values - I)						
1	BSC	U24MH101	Differential Calculus and Ordinary Differential Equations	2	1	-	6	9	3
2	BSC	U24PY102C	Engineering Physics (<i>for CSE</i>)	2	1	2	5	10	4
3	PCC	U24CS103	Computer Organization & Architecture	2	1	-	4	7	3
4	ESC	U24CS104	Programming for Problem Solving with C	2	1	2	5	10	4
5	ESC	U24EE105C	Basic Electrical Engineering	2	1	2	5	10	4
6	VAC	U24CY106	Environmental Studies	2	-	-	3	5	-
7	AEC	U24AE107	IDEA Lab Makerspace	-	-	2	2	4	1
8	ELC	U24EL108	Practicum-1	-	-	-	4	4	1
9	VAC	U24VA109X XXXX	SEA - I / SAA-1	-	-	-	2	2	1
10	AEC	U24AE110	Expert Talk Series-1	-	-	-	1	1	1
Total:				12	5	8	37	62	22
Summer/ Inter-sem Bridge Courses (Approved by BoS and Dean, AA): 1 week to 10 days: 1 credit to each Bridge course under additional learning (will be printed on grade sheet)				-NiL-					

Pool - I (Physics)		
S. No.	Course Code	Course Title
1.	U24PY102A	Engineering Physics (<i>for Civil Engineering</i>)
2.	U24PY102B	Engineering Physics (<i>for ECIE</i>)
3.	U24PY102C	Engineering Physics (<i>for CSE</i>)
4.	U24PY102D	Engineering Physics (<i>for EEE</i>)
5.	U24PY102E	Engineering Physics (<i>for ECE</i>)

Stream-I

Sl. No.	Category	Course Code	Course Title	Lectures / week					Credits
				L	T	P	O	E	
1	BSC	U24MH201	Matrix Theory and Vector Calculus	2	1	-	6	9	3
2	BSC	U24CY202C	Engineering Chemistry (for CSE)	2	1	2	5	10	4
3	PCC	U24CS203	Operating Systems	2	1	-	4	7	3
4	ESC	U24CS204	Data Structures Through C	2	1	2	5	10	4
5	HSMC	U24MH205	English Communication and Report Writing	2	-	-	3	5	2
6	VAC	U24VA206	Sports & Yoga	-	-	2	2	4	1
7	ESC	U24ME207	Engineering Graphics Through CAD*	-	-	2	2	4	1
8	SEC	U24SE208	Programming Skill Development (PSD) Lab - 1	-	-	2	2	4	1
9	ELC	U24EL209	Practicum-2	-	-	-	4	4	1
10	VAC	U24VA210	SEA-2 / SAA -2	-	-	-	2	2	1
11	AEC	U24AE211	Expert Talk Series-2	-	-	-	1	1	1
Total:				10	4	10	36	60	22
Summer/ Inter-sem Bridge Courses (Approved by BoS and Dean, AA): 1 week to 10 days: 1 credit to each Bridge course under additional learning (will be printed on grade sheet)				Unix shell programming (Supports Computer Network and Compiler Design courses)					1

* For CE and ME, it will be a three (03) credit (1-0-4) course on Engineering Graphics & Design (Pedagogy: Sessions with conventional drafter and CAD).

Pool - III (Chemistry)		
S. No.	Course Code	Course Title
1.	U24CY202A	Engineering Chemistry (for Civil Engineering)
2.	U24CY202B	Engineering Chemistry (for ECIE)
3.	U24CY202C	Engineering Chemistry (for CSE)
4.	U24CY202D	Engineering Chemistry (for EEE)
5.	U24CY202E	Engineering Chemistry (for ECE)

III SEMESTER

Sl. No.	Category	Course Code	Course Title	Lectures / week					Credits
				L	T	P	O	E	
1	BSC	U24CS301	Software Engineering	2	1	-	6	9	3
2	PCC	U24CS302	Theory of Computation	2	1	-	4	7	3
3	PCC	U24CS303	Advanced Data Structures	2	1	2	5	10	4
4	PCC	U24CS304	Computer Networks	2	1	-	4	7	3
5	PCC	U24CS305	Object Oriented Programming through JAVA	2	1	2	5	10	4
6	VAC	U24VA306A	Quantitative Aptitude and Logical Reasoning	2		-	2	4	2
7	SEC	U24SE307	Programming Skill Development Lab - 2	-	-	2	2	4	1
8	ELC	U24EL308	Practicum-3	-	-	-	4	4	1
9	VAC	U24VA309	SEA-3 / SAA -3	-	-	-	2	2	1
10	AEC	U24AE310	Expert Talk Series-3	-	-	-	1	1	1
Total:				12	5	6	35	58	23
Summer/ Inter-Sem Bridge Courses (Approved by BoS and Dean, AA): 1 week to 10 days: 1 credit to each Bridge course under additional learning (will be printed on grade sheet)				Data Structures through C* (Supports Lateral Entry students in Advance data structures & DAA course)					1*

*For Lateral Entry Students Only

Training & Placement Basket		
S.No	Course Code	Course Title
1	U24VA306A	Quantitative Aptitude and Logical Reasoning
2	U24VA306B	Soft and Interpersonal Skills

IV SEMESTER

Sl. No.	Category	Course Code	Course Title	Lectures / week					Credits C
				L	T	P	O	E	
1	PCC	U24MH401	Discrete Mathematics and Probability Statistics	2	1	-	6	9	3
2	PCC	U24CS402	Web programming	2	1	2	5	10	4
3	PCC	U24CS403	Database Management Systems	2	1	2	5	10	4
4	PCC	U24CS404	Artificial Intelligence	2	1	-	4	7	3
5	PCC	U24CS405	Python Programming	2	1	2	5	10	4
6	VAC	U24VA406B	Soft and Interpersonal Skills@	-	-	2	2	4	1
7	SEC	U24SE407	Programming Skill Development Lab - 3	-	-	2	2	4	1
8	ELC	U24EL408	Practicum-4	-	-	-	4	4	1
9	VAC	U24VA409	SEA - 4 / SAA - 4	-	-	-	2	2	1
10	AEC	U24AE410	Expert Talk Series-4	-	-	-	1	1	1
11	VAC*	U24CH411*	Environmental Studies*	2*	1*	-	2*	5*	3*
Total:				10	5	10	34	59	23
Summer/ Inter-Sem Bridge Courses (Approved by BoS and Dean, AA): 1 week to 10 days: 1 credit to each Bridge course under additional learning (will be printed on grade sheet)				Mobile Application Development (Supports Major and Minor Project works)					1

*For Lateral Entry Students Only

Training & Placement Basket		
S.No	Course Code	Course Title
1	U24VA406A	Quantitative Aptitude and Logical Reasoning
2	U24VA406B	Soft and Interpersonal Skills

V SEMESTER

Sl. No.	Category	Course Code	Course Title	Lectures / week					Credits
				L	T	P	O	E	
1	MOPEC	U24OE501YYX	MOPEC Elective -I [#]	2	1	-	3	6	3
2	PCC	U24CS502	Machine Learning	2	1	2	5	10	4
3	PCC	U24CS503	Full Stack Development	2	1	2	5	10	4
4	PCC	U24CS504	Compiler Design	2	1	2	5	10	4
5	STE	U24ST505X	S&E Basket *	2	1	-	2	5	3
6	IKSC	U24IK506A	Essence of Indian Traditional Knowledge	2	-	-	2	4	2
7	SEC	U24SE507	Programming Skill Development Lab - 4	-	-	2	2	4	1
8	HSMC	U24MH508	Technical English	-	-	2	2	4	1
9	ELC	U24CS509	Seminar	-	-	-	2	2	1
10	AEC	U24AE510	Expert Talk Series-5	-	-	-	1	1	1
Total:				12	5	10	29	56	24
Additional Learning [@] : Maximum credits allowed for Honours/Minor				-	-	-	-	-	5
Total credits for Honours/Minor students:				-	-	-	-	-	29
Summer/ Inter-Sem Bridge Courses (Approved by BoS and Dean, AA): 1 week to 10 days: 1 credit to each Bridge course under additional learning (will be printed on grade sheet)				-NiL-					

#MULTIDISCIPLINARY OPEN ELECTIVES: Student has to select one course as multidisciplinary open elective from any of the MOPEC Basket of courses offered by other departments.

* Dean AA will allot the courses S&E Basket, Management Course Basket, to the branches as per Stream-I and Stream-II.

[@]List of courses for additional learning through MOOCs towards Honours/Minor in Engineering shall be prescribed by the department under Honours/ Minor Curricula

Startups &Entrepreneurship Basket		
Sr. No.	Course Code	Course Title
1.	U24ST505A	Design Thinking
2.	U24ST505B	Innovative Product Design and Development
3.	U24ST505C	Entrepreneurship
4.	U24ST505D	Design Studio
5.	U24ST505Z	Any other course approved by BoS Chair and Dean AA

VI SEMESTER

Sl. No.	Category	Course Code	Course Title	Lectures / week					Credits
				L	T	P	O	E	
1	PEC	U24CS601	Program Elective -I/ MOOCs-I	2	1	-	4	7	3
2	PCC	U24CS602	Cryptography & Network Security	2	1	-	4	7	3
3	PCC	U24CS603	Design and Analysis of Algorithms	2	1	2	5	10	4
4	ESC	U24IN604	Internet of Things	2	1	2	5	10	4
5	HSMC	U24MB605X	Management Course Basket	2	1	-	2	5	3
6	IKSC	U24IK606B	UHV-II	2	-	-	2	4	2
7	SEC	U24SE607	PSD Lab-05	-	-	2	2	4	1
8	ELC	U24CS608	Mini Project	-	-	2	2	4	1
9	AEC	U24AE609	Expert Talk Series-6	-	-	-	1	1	1
Total:				12	5	8	25	50	22
Additional Learning[®]: Maximum credits allowed for Honours/Minor				-	-	-	-	-	5
Total credits for Honours/Minor students:				-	-	-	-	-	27
Summer/ Inter-Sem Bridge Courses (Approved by BoS and Dean, AA): 1 week to 10 days: 1 credit to each Bridge course under additional learning (will be printed on grade sheet)				Digital Image Processing (Supports Deep learning, Minor/Major Projects)					1

#MULTIDISCIPLINARY OPEN ELECTIVES: Student has to select one course as multidisciplinary open elective from any of the MOPEC Basket of courses offered by other departments.

[®]List of courses for additional learning through MOOCs towards Honours/Minor in Engineering shall be prescribed by the department under Honours/ Minor Curricula

B. Tech Honours with Research:

Students opting for B. Tech Honours with Research, shall undergo a 2-Month Mandatory Research Internship-II(5 Credits) at respective department during the summer vacation after VI Semester.

Management Courses Basket		
Sr. No.	Course Code	Course Title
1.	U24MBA605A	Management Economics and Accountancy
2.	U24MBA605B	Industrial Psychology
3.	U24MBA605C	E-Commerce and Digital Marketing
4.	U24MBA605D	Organizational Behaviour
5.	U24MBA605Z	Any other course approved by BoS Chair and Dean AA

Bridge Courses for exit:

VII SEMESTER

Sl. No.	Category	Course Code	Course Title	Lectures / week					Credits
				L	T	P	O	E	
1	MOPEC	U24OE701XX	MOPEC Elective -II	2	1	-	3	6	3
2	PEC	U24CS702	Program Elective - II/ MOOCs-II	2	1	-	4	7	3
3	PCC	U24CS703	Cloud Computing	2	1	2	5	10	4
4	PCC	U24CS704	Deep Learning	2	1	-	4	7	3
5	PCC	U24CS705	Blockchain Technologies	2	1	-	4	7	3
6	ELC	U24CS706	Internship Evaluation*	-	-	2	-	2	1
7	ELC	U24CS707	Major Project, Phase-1/ Industrial Internship - 1	-	-	8	6	14	4
Total:				10	5	12	26	53	21
Additional Learning@: Maximum credits allowed for Honours/Minor				-	-	-	-	-	4
Total credits for Honours/Minor students:				-	-	-	-	-	25

#MULTIDISCIPLINARY OPEN ELECTIVES: Student has to select one course as multidisciplinary open elective from any of the MOPEC Basket of courses offered by other departments.

@ List of courses for additional learning through MOOCs towards Honours/Minor in Engineering shall be prescribed by the department under Honours/ Minor Curricula

B. Tech Honours with Research

Students opting for B. Tech Honours with Research, shall complete Research Methodology Course(4 Credits) through MOOCS (OR) a workshop / FDP of not less than one week on "Research Methodologies" (4 Credits).

Internship Evaluation for the students opting B. Tech Honours with Research, will be done on the 2-Month Research internship-II.

VIII SEMESTER

Sl. No.	Category	Course Code	Course Title	Lectures / week					Credits
				L	T	P	O	E	
1	MOPEC	U24OE801XX	MOPEC Elective -III	2	1	-	3	6	3
2	PEC	U24CS802	Program Elective - III / MOOCs-IV	2	1	-	4	7	3
3	PEC	U24CS803	Program Elective - IV / MOOCs-V	2	1	-	4	7	3
4	ELC	U24CS804	Major Project, Phase - 2 / Industrial Internship - 2	-	-	12	4	16	6
Total:				6	3	12	15	36	15
Additional Learning@: Maximum credits allowed for Honours/Minor				-	-	-	-	-	4
Total credits for Honours/Minor students:				-	-	-	-	-	19

#MULTIDISCIPLINARY OPEN ELECTIVES: Student has to select one course as multidisciplinary open elective from any of the MOPEC Basket of courses offered by other departments.

@ List of courses for additional learning through MOOCs towards Honours/Minor in Engineering shall be prescribed by the department under Honours/ Minor Curricula

B. Tech Honours with Research

Students opting for B. Tech Honours with Research, shall Publish a research paper in reputed journal indexed by SCI / SCOPUS/Web of Science (4 Credits).

SUMMARY

SEMESTER	I	II	III	IV	V	VI	VII	VIII	TOTAL
CREDITS	22	22	23	23	24	22	21	15	172