Department of Computer Science

Program Name: B.Tech

Academic Session: 2024-25

Semester: 3rd

Course Name: Universal Human Values & Professional Ethics Course Code: BVE301 Course Coordinator Name: Prof. Pawan Kumar Pal

A	fter completion of the course, the student will be able to		Revised	Knowledge	
CO No.	Statement of Course Outcome	Relevant POs/ PSOs		Category (KC)	
CO1	Understand the process of self-exploration and meaning of natura acceptance.	PO6, PO7, PO8, PO9, PO10, PO12, PSO2	Understand	C, P	
CO2	Explore the concept of harmony in the human being (in Myself) being 'I' & 'body' as separate entity	PO6. PO7. PO8. PO9. PO10, PO12	Analyze	C, P	
CO3	Analyze the process of developing harmony in family and society	PO6, PO7, PO8, PO9, PO10, PO12, PSO2	Analyze	C, P	
CO4	Analyze the process of developing harmony in nature and existent		Analyze	C, P	
CO5	Apply the role of holistic understanding of harmony of profession ethics.	PO6, PO7, PO8, PO9, PO10, PO12, PSO2	Apply	C, P	
Faculty N	Members Teaching the Course Signature Fac	culty Members Teaching the	Course	Signature	
E-15	van Kumar Pal Pro	of. Akash Goel			
Prof. Arti	i Sharma Aauta		- Ca	7	

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- The theory courses/ project having credits 3 to 6 should have 5 number of COs. The laboratory course/ mini project/ seminar/ industrial training having credits less than 3 should have 5 number of COs. The laboratory courses/ mini project/ seminar/ industrial training having credits less than 3 should have 5 number of COs.
- The statement of a CO must be formed considering a proper structure having mandatory and optional parts. The mandatory parts are Action & Knowledge and optional parts are Condition and Criteria.

Department of Computer Science

Semester: 3rd

Course Name: Universal Human Values & Professional Ethics Course Code: BVE301 Course Coordinator Name: Prof. Pawan Kumar Pal

- PO/PSO Ma	TIX.				Progr	amme O	utcome	(PO)			1	12	1	2
CO No.	1	2	3	4	5	6	7	8	9	10	11	1	-	1
		-		-	-	1	1	1	1	1	185	1		1
COI	_	1	-					- 2		1		2	-	-
CO2	-	870	-	-	-	3	2	3	2	1				
						3	2	3	2	1	-	2	-	2
CO3	-	-	-	-	-	3		1.50				2	-	_
	-	-	-	-	-	3	2	3	2	1	5.7	2		
CO4								3	2	1	-	2	-	2
CO5	-	-	-	-	-	3	2	3		1				1.0
PO Target		-		-	-	2.6	1.8	2.6	1.8	1	-	1.8	-	1.6

		m 1: the Course	Signature
Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	
Prof. Pawan Kumar Pal	X	Prof. Akash Goel	
Prof. Arti Sharma	Dank		

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- Please Note (Reference: OBE Guidelines wef. Session 2021 22) The strength of correlation between COs and POs/PSOs/APOs should be represented as 1 (low correlation), 2 (medium correlation) and 3 (high correlation) in CO - PO/APO/P Matrix.
- If there is no correlation, then put a "-" (dash).

Department of Computer Science

Program Name: B.Tech Course Name: Data Structure

Course Outcomes

Academic Session: 2024-25

Course Code: BCS301

Course Coordinator Name: Dr. Harsh Khatter

Af	ter completion of the course,	the student will be able to	Relevant POs/ PSOs	Revised Bloom's Level	Knowledge Category (KC)
CO No.	Statement o	f Course Outcome		(BL)	
CO1	Apply the concepts of Array	and Linked List in problem solvin	g. PO1, PO2, PO3, PO4, PO11, PSO1	Apply	C. P
CO2		act data types like stack and queue io-based problems.	to PO1, PO2, PO3, PO4, PO11, PSO1	Analyze	С, Р
CO3		us searching and sorting algorithms of	PO1, PO2, PO3, PO4, PO11, PSO1	Analyze	C, P
CO4	Examine the various types of	f tree data structures in terms of data lata representation, and optimization.	PO1, PO2, PO3, PO4, PO11, PSO1	Analyze	C, P
CO5	Analyze the problem statement	s in terms of graphs to solve real-worldens easily.	PO1, PO2, PO3, PO4, PO11, PSO1	Analyze	C, P
Faculty M	embers Teaching the Course		Faculty Members Teaching the C	ourse	Signature
Dr. Harsh	Khatter	Hammi !	Prof. Sreesh Gaur	The state of the s	7
Prof. Anur	ag Mishra	N=	Prof. Puncet Goyal	4	

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- The theory courses/ project having credits 3 to 6 should have 5 number of COs. The laboratory course/ mini project/ seminar/ industrial training having credits less than 3 should be a should have 5 number of COs. The laboratory course/ mini project/ seminar/ industrial training having credits less than 3 should be a should have 5 number of COs. have 3 number of COs. The Project having 7 to 12 credits should have 6 to 10 number of COs.
- The statement of a CO must be formed considering a proper structure having mandatory and optional parts. The mandatory parts are Action & Knowledge and optional parts are Condition and Criteria.

Department of Computer Science

Semester: 3rd

PSO

Academic Session: 2024-25 Course Code: BCS301

Course Coordinator Name: Dr. Harsh Khatter

Program Name: B.Tech Course Name: Data Structure

co-l	PO/PSO Mat	trix						2toom((PO)		
		T				Prog	ramme (Jutcome	(PO)	9	1
-	CO No.	1	2	3	4	5	6			-	-

				Trog		7	8	9	10		3	3	-
1	2	3	4	5	6	/	-	-	-	-	3		
3	3	2	1	-	-				-	-	3	3	-
3	3	3	2	-	-	-				-	3	3	-
3	3	3	2	-		-	•				3	3	
3	3	2	2	-	-	-	-	-	-		3	3	1
3	3	2	2	.=	-	-	-	-	-	-	3	1 2	-
5					_	-	-	-	-	-	3	3	
	3	3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3 3 3 3 3 2 3 3 2	1 2 3 4 3 3 2 1 3 3 3 2 3 3 3 2 3 3 2 2 3 3 2 2 3 3 2 2	1 2 3 4 5 3 3 2 1 - 3 3 3 2 - 3 3 2 - 3 3 2 2 - 3 3 2 2 -	1 2 3 4 5 6 3 3 2 1 - - 3 3 3 2 - - 3 3 2 - - 3 3 2 2 - 3 3 2 2 - 3 3 2 2 -	1 2 3 4 5 6 7 3 3 2 1 - - - 3 3 3 2 - - - 3 3 2 2 - - - 3 3 2 2 - - - 3 3 2 2 - - -	1 2 3 4 5 6 7 3 3 3 2 1 - - - - 3 3 3 2 - - - - 3 3 2 2 - - - - 3 3 2 2 - - - - 3 3 2 2 - - - -	1 2 3 4 5 6 7 5 3 3 2 1 - - - - 3 3 3 2 - - - - 3 3 2 2 - - - - 3 3 2 2 - - - - 3 3 2 2 - - - -	1 2 3 4 5 6 7 6 - <td>1 2 3 4 5 6 7 3 -</td> <td>1 2 3 4 5 6 7 3 3 3 2 1 - - - - - - - 3 3 3 3 2 - - - - - - 3 3 3 2 2 - - - - - - 3 3 3 2 2 - - - - - - 3</td> <td>1 2 3 4 5 6 7 8 - - - 3 3 3 3 2 1 - - - - - - 3 3 3 3 3 2 - - - - - - 3 3 3 3 2 2 - - - - - - 3 3 3 3 2 2 - - - - - - 3 3 3 3 2 2 - - - - - - 3 3</td>	1 2 3 4 5 6 7 3 -	1 2 3 4 5 6 7 3 3 3 2 1 - - - - - - - 3 3 3 3 2 - - - - - - 3 3 3 2 2 - - - - - - 3 3 3 2 2 - - - - - - 3	1 2 3 4 5 6 7 8 - - - 3 3 3 3 2 1 - - - - - - 3 3 3 3 3 2 - - - - - - 3 3 3 3 2 2 - - - - - - 3 3 3 3 2 2 - - - - - - 3 3 3 3 2 2 - - - - - - 3 3

			Signature
Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	1 b.
Dr. Harsh Khatter	Sharen .	Prof. Sreesh Gaur	017
Prof. Anurag Mishra	(Nut	Prof. Puneet Goyal	0
			and the second

Signature of Course Coordinator

Assoc. Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- Please Note (Reference: OBE Guidelines wef. Session 2021 22) The strength of correlation between COs and POs/ PSOs/APOs should be represented as 1 (low correlation), 2 (medium correlation) and 3 (high correlation) in CO - PO/APO Matrix.
- If there is no correlation, then put a "-" (dash).

Department of Computer Science

Program Name: B.Tech

Academic Session: 2024-25

Year: 2nd

Semester: 3rd

Course Name: Computer Organization and Architecture Course Code:BCS302

Course Coordinator Name: Dr. Kalpna Sagar

Course Outcomes

Afte	er completion of the course, the student will be able to	Relevant POs/ PSOs	Revised Bloom's Level	Knowledge Category (KC)
CO No.	Statement of Course Outcome		(BL)	
CO1	Elaborate the fundamental components of the basic computer system organization.	PO1, PO2, PO3, PO4, PO12	Understand	С
CO2	Illustrate the design of ALU, fixed-floating-point representations and various multiplication, division operations	PO1, PO2, PO3, PO4, PO12, PSO1	Apply	C, P
602	on binary numbers. Interpret control unit design and concept of pipelining.	PO1, PO2, PO3, PO4, PO12	Understand	C
CO3	Apply the concept of different types of memories for designing	PO1, PO2, PO3, PO4, PO12, PSO1	Apply	C, P
CO4	of memory system. Characterize different ways of communication with I/O devices and standard I/O interfaces	PO1, PO2, PO3, PO4, PO12	Understand	С

	Signature Faculty M	lembers Teaching the Course	Signature
Faculty Members Teaching the Course	Prof. Shreels	a Pareek	Andre
Dr. Kalpna Sagar Prof. Amit Kumar Singh Sanger	Prof. Anmol	ROL.	Chr
Signature Coordinator	Assoc./ Asst. Head DOC	Signature of Addl. HoD	Signature of HoD

Signature of Course Coordinator

The theory courses/ project having credits 3 to 6 should have 5 number of COs. The laboratory course/ mini project/ seminar/ industrial training having credits less than 3 should

The statement of a CO must be formed considering a proper structure having mandatory and optional parts. The mandatory parts are Action & Knowledge and optional parts are Condition and Criteria.

Department of Computer Science

Program Name: B.Tech Academ

Academic Session: 2024-25

Year: 2nd

Semester: 3rd

Course Name: Computer Organization and Architecture Course Code: BCS302

Course Coordinator Name: Dr. Kalpna Sagar

CO - PO/PSO Matrix

CO No.					Prog	gramme	Outcom	e (PO)					P	so
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	2	2	1	1	-	-	-	-	-	-:	-	2	-	-
CO2	. 2	2	1	2	-		-	-	-	-	-	2	1	-
CO3	2	2	1	1	-	-	-	-	-	-	-	2	-	-
CO4	2	2	2	2	-	-	-	-	-	-	-	3	1	-
CO5	2	2	1	1	-	-	-	-	-	-	-	2	-	-
PO Target	2	2	1.20	1.40	-	-	-	•	-	-	-	2.2	1	١.

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
Dr. Kalpna Sagar	Later	Prof. Shreela Pareek	Signature
Prof. Amit Kumar Singh Sanger	अभितंदिकर	Prof. Anmol Jain	The orbit

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- The strength of correlation between COs and POs/PSOs/APOs should be represented as 1 (low correlation), 2 (medium correlation) and 3 (high correlation) in CO PO/APO/PSO Matrix.
- If there is no correlation, then put a "-" (dash).

Department of Computer Science

Program Name: B.Tech Course Name: DSTL

Course Outcomes

Academic Session: 2024-25 Course Code: BCS303

Year: 2nd

Semester: 3rd

Course Coordinator Name: Prof. Aakansha

Aft	er completion of the course, the st	udent will be able to		Revised	Knowledge
CO No.	Statement of Cou	arse Outcome	Relevant POs/ PSOs	Bloom's Level (BL)	Category (KC)
CO1	Illustrate basic mathematical obje POSET and Lattices.	cts such as sets, relations,	PO1, PO2, PO12, PSO2	Apply	C,P
CO2	Examine various structures and p and functions.	roperties of Boolean algebra	PO1, PO2, PO7, PSO2	Apply	C,P
CO3	Explore the mathematical proper propositional and predicate logic		PO1, PO2, PO4, PO7, PO11, PO12, PSO1, PSO2	Analyze	C,P
CO4	Solve substantial experience of rings and fields.	Algebraic Structure as groups,	PO1, PO2, PO4, PO11, PO12, PSO1, PSO2	Apply	C,P
CO5	Use graphs as tools to visualize	and simplify the problems.	PO1, PO2, PO4, PO5, PO7, PO11, PO12, PSO1, PSO2	Apply	C,P
Faculty N	Members Teaching the Course	Signature	Faculty Members Teaching	the Course	Signature
Prof. Nel	ha Shukla	Joels	Prof. Vandana		Vandara
Prof. Aak	kansha	(De	Prof. Kuldeep Kumar Ata	riya –	Phologo

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

- The theory courses/ project having credits 3 to 6 should have 5 number of COs. The laboratory course/ mini project/ seminar/ industrial training having credits leading to 6 should have 5 number of COs. have 3 number of COs. The Project having 7 to 12 credits should have 6 to 10 number of COs.
- The statement of a CO must be formed considering a proper structure having mandatory and optional parts. The mandatory parts are Action & Knowledge and Condition and Criteria.

Department of Computer Science

Program Name: B.Tech. Course Name: DSTL

Academic Session: 2024-25 Course Code: BCS303

Semester: 3rd Year: 2nd Course Coordinator Name: Prof. Aakansha

2.2					Progr	amme O	utcome	(PO)					PSC	0
CO No.	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	3	1	-		-	-	ē	-	-	-	-	1	-	1
CO2	3	1	353	1,-1	-	-	1	-	-	-	-	-	-	2
CO3	2	1	-	2	-	-	1	-	-	-	1	2	1	3
CO4	3	1	-	2	-	-		-	-	-	1	1	1	3
CO5	2	1	-	2	3	-	1	-	-	-	2	2	2	2
PO Target	2.6	1	-	2	3	-	1	-	-	-	1.33	1.40	1.33	2.0

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
Prof. Neha Shukla	pele	Prof. Vandana	Vardana
Prof. Aakansha	(80)	Prof. Kuldeep Kumar Atariya	-Kloby

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- The strength of correlation between COs and POs/PSOs/APOs should be represented as 1 (low correlation), 2 (medium correlation) and 3 (high correlation) in CO PO/APO/F Matrix.
- . If there is no correlation, then put a "-" (dash).

Department of Computer Science

Program Name: B.Tech Course Name: Python Programming

Academic Session: 2024-25

Semester: 3rd

Course Outcomes

Course Code: BCC302

Course Coordinator Name: Prof. Bhagvan Krishna Gupta

CO No.	Statement of Course Outcome	Relevant POs/ PSOs	Revised Bloom's Level	Knowledge Category (KC)
CO1	Explain the fundamentals of Python syntax, semantics and	PO1, PO2	(BL) Understand	C
CO2	Express proficiency in the handling of strings and functions and be fluent in the use of Python control flow statements		Apply	C, P
COA	Determine the methods for each of war in	PO12		
CO3	sets	PO1, PO2, PO3, PO4, PO12	Apply	C, P
CO4	Interpret the commonly used operations involving file systems and		17-40C 1 W	
005	regular expressions	PO1, PO2, PO3, PO4, PO12	Understand	F, C
	Explain and use of different in-built function of packages and connecting with GUI programming.	PO1, PO2, PO3, PO4, PO12	Apply	C, P

Faculty Members Teaching the C	
Faculty Members Teaching the Course	Signature
Prof. Bhagvan Krishna Gupta	(m) 1/2
	Man de la company de la compan
	Prof. Bhagvan Krishna Gupta Prof. Aakansha Moral

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

Please Note (Reference: OBE Guidelines wef. Session 2021 - 22)

The theory courses/ project having credits 3 to 6 should have 5 number of COs. The laboratory course/ mini project/ seminar/ industrial training having credits less than

The statement of a CO must be formed considering a proper structure having mandatory and optional parts. The mandatory parts are Action & Knowledge and optional

Department of Computer Science

Program Name: B.Tech Course Name: Python Programming Academic Session: 2024-25 Course Code: BCC 302 Year: 2nd

Semester: 3rd

Course Coordinator Name: Prof. Bhagvan Krishna Gupta

CO - PO/PSO Matrix

								(DO)					PS	O
CO No.					Progr	amme O	utcome	10000		1.0	11	12	1	2
CO No.	1	2	3	4	5	6	7	8	9	10	+ 1			
COI	2	1	м.	_		-		-	-	-	-	-	-	-
CO2	2	2	1	1	-				-	-	1	2	-	-
CO3	3	2	1	1	-			-	-	-		2	-	
CO4	2	2	2	1		-	-	-	-	-	-	2		
CO5	3	3	2	1				-	-		-	2		
PO Target	2.4	2	1.5	1	-	-	-	-	-	1 -	-	2	-	

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	\sim	Signature
Prof. Shivani	Lemani	Prof. Bhagvan Krishna Gupta	RI.	1
Prof. Umnah	Morret	Prof. Aakansha Moral		AR

Signature of Course Coordinator

Assoc. / Asst. Head DOC

Signature of Addl. HoD

Signature of !

- The strength of correlation between COs and POs/PSOs/APOs should be represented as 1 (low correlation), 2 (medium correlation) and 3 (high correlation) in CO Matrix
- If there is no correlation, then put a ">" (dash).

Department of Computer Science

Academic Session: 2024-25 Program Name: B.Tech. Course Code: BCS351 Course Name: Data Structure Lab

Semester: 3rd

Course Coordinator Name: Prof. Anurag Mishra

) - PO/PSO Ma	triv												PSC)
) - PO/PSO Ma	T				Progr	ramme ()utcome	(PO)	0	10	11	12	1	2
CO No.	1	2	3	4	5	6		8	9	10	_	1	3	3
CO1	3	2	2	2	3	-	-			-		2	2	2
CO2	3	3	2	2	3	-	-	-	-			3	2	2
CO3	3	3	2	2	3	-	-	-	-	-	-	3	3	:
CO4	3	3	3	2	3	-	-	-	-	-	-	2.25	2.5	2
PO Target	3	2.75	2.25	2	3	-	-	(-				Signatur	

PO Target		- Consequents			34			La Course	Signature
Faculty Members To	aching the	Course		Sign	nature		Faculty Members Teaching t	ne Course	- Tu
		Course	1	~	~~		Prof. Sreesh Gaur		91/2
Dr. Harsh Khatter			1	9	N.	-	Prof. Puneet Goyal		
Prof. Anurag Mishra	1			\leftarrow	717				

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of HoD

- The strength of correlation between COs and POs/ PSOs/APOs should be represented as 1 (low correlation), 2 (medium correlation) and 3 (high correlation) in CO PO/AP Matrix.
- If there is no correlation, then put a "-" (dash).

Department of Computer Science

Program Name: B.Tech.

Academic Session: 2024-25

Year:2nd

Semester: 3rd

Course Name:

Data Structures Lab

Course Code: BCS351

Course Coordinator Name: Prof. Anurag Mishra

Course Outcomes

1	After completion of the course, the student will be able to	Relevant POs/ PSOs	Revised Bloom's Level	Knowledge
CO No.	Statement of Course Outcome	Relevant 1 03/1 2 00	(BL)	Category (KC)
CO1	Perform the primitive operation on various types of data structures	PO1, PO2, PO3, PO4, PO5, PO12, PSO1, PSO2	Apply	C, P
CO2	Apply the concepts of data structure in problem solving.	PO1, PO2, PO3, PO4, PO5, PO12, PSO1, PSO2	Apply	C, P
CO3	Make a solution for the scenario-based problems in terms of algorithm and programming code on competitive platforms.	PO1, PO2, PO3, PO4, PO5 PO12, PSO1, PSO2	5, Analyze	C, P
CO4	Design a solution for a project-based problem as a team and present the solution in class	PO1, PO2, PO3, PO4, PO PO12, PSO1, PSO2	O5, Create	P, M
			1	1

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
Dr. Harsh Khatter	James	Prof. Sreesh Gaur	- Flu
Prof. Anurag Mishra	(Nn	Prof. Puneet Goyal	

Signature of course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature o

- The theory courses/ project having credits 3 to 6 should have 5 number of COs. The laboratory course/ mini project/ seminar/ industrial training having credits and the state of COs. The Project having 7 to 12 credits should have 6 to 10 number of COs.
 - The statement of a CO must be formed considering a proper structure having mandatory and optional parts. The mandatory parts are Action & Knowledge at Condition and Criteria.

Department of Computer Science

Program Name: B.Tech Course Name: COA Lab

Academic Session: 2024-25 Course Code: BCS352 Year: 2nd

Semester: 3rd

Course Coordinator Name: Prof. Anmol Jain

CO - PO/PSO Matrix

					Progra	mme O	utcome (PO)					PSO	
CO No.	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	2	1	1	-	-	-	-	-	-	-	-	1	1	-
CO2	2	1	1	12	-	-	-	-	-	-	-	1	1	-
CO3	3	1	1	-	-	-	-	-	-	-	-	1	1	-
CO4	2	1	1	-	-	-	-	-	-	-	-	1	1	
CO5	2	1	1	-	-	-	-	-	-	-	-	1	1	
PO Target	2.20	1	1	-	-	_	-	-	-	-	-	1	1	

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
Dr. Kalpna Sagar	Later	Prof. Shreela Pareek	205
Prof. Amit Kumar Singh Sanger	अप्रितिकर	Prof. Anmol Jain	Suota

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of Hol

- The strength of correlation between COs and POs/ PSOs/APOs should be represented as 1 (low correlation), 2 (medium correlation) and 3 (high correlation) in CO Post Matrix.
- . If there is no correlation, then put a "-" (dash).

Department of Computer Science

Program Name: B.Tech Course Name: COA Lab

Academic Session: 2024-25

Course Code: BCS352

Year: 2nd

Course Coordinator Name: Prof. Anmol Jain

Semester:3rd

Course Outcomes

Aft	ter completion of the course, the student will be able to		Revised	Knowledge	
CO No.	Statement of Course Outcome	Relevant POs/ PSOs	Bloom's Level (BL)	Category (KC)	
C01	Apply logic gates to customize the adders, subtractors and code conversion (B2G and G2B) circuit.	PO1, PO2, PO3, PO12, PSO1	Apply	С,Р	
CO2	onstruct Multiplexers (4x1, 8x1) and Decoders (2x4, 3x8) using PO1, PO2, PO3, logic gates. PO12, PSO1		Apply	C,P	
CO3	Derive the excitation tables of various flip flops.	PO1, PO2, PO3, PO12, PSO1	Apply	C,P C,P	
CO4	Model 8-bit Arithmetic Logic unit.	PO1, PO2, PO3, PO12, PSO1	Apply		
CO5	Model 8-bit input output system with four-bit internal registers.	PO1, PO2, PO3, PO12, PSO1	Apply	C,P	

To a large Togghing the Course	Signature	Faculty Members Teaching the Course	Signature
Faculty Members Teaching the Course	Tolley	Prof. Shreela Pareek	703
DI. Kaipila Sagai	MAGGMZ	Prof. Anmol Jain	quoton
Prof. Amit Kumar Singh Sanger			

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- The theory courses/ project having credits 3 to 6 should have 5 number of COs. The laboratory course/ mini project/ seminar/ industrial training having credits less than 3 should have 3 number of COs. The Project having 7 to 12 credits should have 6 to 10 number of COs.
- The statement of a CO must be formed considering a proper structure having mandatory and optional parts. The mandatory parts are Action & Knowledge and optional parts are Condition and Criteria.

Department of Computer Science

Program Name: B.Tech Academic Session: 2024-25

Year: 2nd Semester: 3'4

Course Outcomes

Course Name: Mini Project/Internship Assessment

Course Code: BCC351 Course Coordinator Name: Dr. Anurag Tewari

Af	fter completion of the course	, the student will be able to			Revised	Knowledge
CO No.	Statement	roblem and their implementation the pols and techniques. esign process through the integration of diverse technical knowledge. It solution to meet the requirements problem solving. ploying a variety of tools and technical to ensure impact fullness to be selected problem.		Relevant POs/ PSOs	Bloom's Level (BL)	Category (KC)
COI	tools	and techniques.		PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2	Analyze	С
CO2	application of div	verse technical knowledge.		PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2	Understand	С
CO3	pro	blem solving.		PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2	Apply	С
CO4	Prepare solution by employ	ing a variety of tools and techniqu	ies.	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2	Apply	С
CO5	the se	ion to ensure impact fullness towa lected problem.	ırds	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2	Understand	С
Faculty Me	mbers Teaching the Course	Signature	Facu	lty Members Teaching the Course		gnature
Prof. Pawan	Kumar Pal	St.		ndra Kumar Patel	Rajendrok	> pma
Prof. Vikas	Gangwar	1111	Dr. A	Anurag Tewari	Juny	

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- The theory courses/ project having credits 3 to 6 should have 5 number of COs. The laboratory course/ mini project/ seminar/ industrial training having credits less than 3 should have 5 number of COs. have 3 number of COs. The Project having 7 to 12 credits should have 6 to 10 number of COs.
- The statement of a CO must be formed considering a proper structure having mandatory and optional parts. The mandatory parts are Action & Knowledge and optional parts Condition and Criteria.

Department of Computer Science

Program Name: B.Tech.

Academic Session:

2024-25

Year:2nd

Semester: 3rd

Course Name: Mini Project/Internship Assessment

Course Code: BCC351 Course Coordinator Name: Dr. Anurag Tewari

CO - PO/PSO Matrix

CO - PO/PSO Ma	IFIX				D		Outcor	me (PO)				PS	SO
CO No.			_		1	ramme	Outcor		9	10	11	12	1	2
CO 110.	1	2	3	4	5	6	7	8	-	10		100000000000000000000000000000000000000	-	3
CO1	3	3	3	2	3	2	2	2	3	3	2	3	2	3
CO2	3	3	2	3	3	2	2	2	3	3	2	3	2	3
CO3	3	3	2	3	3	2	2	2	3	3	2	3	2	3
CO4	3	3	3	2	3	2	2	2	3	3	2	3	2	3
CO5	3	3	3	2	3	2	2	2	3	3	2	3	2	3
PO Target	3	3	2.6	2.4	3	2	2	2	3	3	2	3	2	3

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
Prof. Pawan Kumar Pal	the	Rajendra Kumar Patel	Rajendra Kumar
Prof. Vikas Gangwar	1)1/08/5-1	Dr. Anurag Tewari	Smy

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- The strength of correlation between COs and POs/PSOs/APOs should be represented as 1 (low correlation), 2 (medium correlation) and 3 (high correlation) in CO PO/APO/PSO
- If there is no correlation, then put a "-" (dash).

Department of Computer Science

Course Name: Web Design Workshop

Course Outcomes

Program Name: B.Tech

Academic Session: 2024-25 Year: 2nd

Course Code: BCS 353 Course Coore

5 Year: 2nd Semester: 3rd
Course Coordinator Name: Prof. Kuldeep Kumar Atariya

	ter completion of the course, the student will be able to	Relevant POs/ PSOs	Revised Bloom's Level	Knowledge	
CO No.	Statement of Course Outcome	Relevant 1 Os/ 1 SOs	(BL)	Category (KC)	
CO1	Implement advanced HTML tags for designing HTML pages.	PO1, PO2, PO3, PO4, PO5, PSO, PSO2	Apply	P	
CO2	Implement elements of Cascading Style Sheet (CSS) for providing look and feel in web sites. PO1, PO2, PO3, PO4 PSO1. PSO2		Apply	P	
CO3	Implement Bootstrap components to design dynamic web sites.	PO1, PO3, PO4, PO5, PO12, PSO1, PSO 2	Apply	P	
CO4	Understanding the basic concept of Java Script and its application.	PO1, PO4, PO5, PSO1, PSO2	Understand	С	
CO5	Implement the validation and verification functions in web sites by using Java Script.	PO1, PO4, PO5, PSO1, PSO2	Apply	P	

Prof Vivek Kumar Cham	Faculty Members Teaching the Course	Signature
Prof. Kuldeep Kumar Atariya	Prof. Abhishek Goyal	tes

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

)

Signature of HoD

Please Note (Reference: OBE Guidelines wef. Session 2021 – 22)

The theory courses/ project having credits 3 to 6 should have 5 number of COs. The laboratory course/ mini project/ seminar/ industrial training having credits less than
 The statement of a CO must be formed considering.

The statement of a CO must be formed considering a proper structure having mandatory and optional parts. The mandatory parts are Action & Knowledge and optional condition and Criteria.

Department of Computer Science

Program Name: B.Tech

Course Name: Web Design Workshop

Academic Session: 2024-25 Course Code: BCS 353

Year: 2nd

Semester: 3rd Course Coordinator Name: Prof. Kuldeep Kumar Atariya

CO - PO/PSO Matrix

CO No.					Pro	gramme	Outcon	ie (PO)					PSO	
CO No.	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	1	1	2	1	1	11.773	-	-). 	-	-	-	1	1
CO2	1	1	2	1	2	: =	-	-	-	-	-	-	1	1
CO3	2	84	3	1	3		-	-	-	-	25-	3	2	2
CO4	1	-	-	1	1	-	-	-	-	-	-	-	1	1
CO5	2	-	-	2	2	-	-	-	-	-	-	3	2	2
PO Target	1.4	1	2.33	1.2	1.8	-	-	-	-	-	-	3	1.4	1.

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
Prof. Vivek Kumar Sharma	And	Prof. Abhishek Goyal	fair
Prof. Kuldeep Kumar Atariya	Tuduf		

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- The strength of correlation between COs and POs/PSOs/APOs should be represented as 1 (low correlation), 2 (medium correlation) and 3 (high correlation) in CO PO/APO/ Matrix.
- If there is no correlation, then put a "-" (dash).

Department of Computer Science

Program Name: B.Tech Course Name: DBMS Course Outcomes

Academic Session: 2024-25 Course Code: KCS 501

Year: 3rd

Semester: 5th

Course Coordinator Name: Dr. Gaurav Dubey

	After completion of the course, the student will be able to			
CO No.	Statement of Course Outcome	Relevant POs/ PSOs	Revised Bloom's Level (BL)	Knowledge Category (KC)
CO1	Illustrate the knowledge of database concepts along with selection of the data model and C design of database for real world.	PO1, PO2, PO3, PO12	Apply	C, P
CO2	Apply query processing techniques (relational algebra and relational calculus expressions) with knowledge of relational model and query languages.	PO1, PO2, PO3, PO4, PO12	Apply	C, P
СОЗ	Solve the database redundancy problem using normalization techniques for good database design	PO1, PO2, PO3, PO4, PO12	Analyze	C, P
CO4	Explain the database transactions processing concepts and broad range of database management issues in concurrent environment.	PO1, PO2, PO3, PO12	Apply	C, P
CO5	Examine the different concurrency control techniques and study of database recovery methods.	PO1, PO2, PO3, PO12	Apply	C, P

neulty Members Teaching the Course r. Ajay Shrivastava	Signature	Faculty Members Teaching the Course	Signature
r. Gaurav Dubey	The Land	Prof. Arushi Gupta	Wo W

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

Please Note (Reference: OBE Guidelines wef. Session 2021 - 22)

The theory courses/ project having credits 3 to 6 should have 5 number of COs. The laboratory course/ mini project/ seminar/ industrial training having credits less than 3 sl

The statement of a CO must be formed considering a proper structure having mandatory and optional parts. The mandatory parts are Action & Knowledge and optional parts.

Department of Computer Science

Program Name: B.Tech.

Academic Session: 2024-25

Year: 3rd

Semester: 5th

Course Name: DBMS Course Code: KCS501

Course Coordinator Name: Dr. Gaurav Dubey

CO - PO/PSO Matrix

CO N.					Prog	ramme (Outcome	(PO)					PSO	
CO No.	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	3	2	3	-	-	-	-	-	-	_	-	2	-	-
CO2	3	3	3	2		_	-	-	-	-	-	3	-	_
CO3	3	3	3	2	-	-	-	_	_	-	-	2	_	_
CO4	3	3	2	_	_	-	_	-	-	-	-	2	_	
CO5	3	2	2	-	n=	_	_	-	-	-	_	1	_	
PO Target	3	2.6	2.6	2	-	-	-	-	-	-	-	2	-	

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
Dr. Ajay Shrivastava	(DXS)	Prof. Arushi Gupta	July'
Dr. Gaurav Dubey	En		

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- The strength of correlation between COs and POs/ PSOs/APOs should be represented as 1 (low correlation), 2 (medium correlation) and 3 (high correlation) in CO PO/AF Matrix.
- . If there is no correlation, then put a "-" (dash).

Department of Computer Science

Program Name: B.Tech Course Name: Compiler Design Academic Session: 2024-25 Course Code: KCS502

Year: 3rd

Semester: 5th

Course Coordinator Name: Prof. Arti Sharma

Course Outcomes

Afte	er completion of the course, the student will be able to	Relevant POs/ PSOs	Revised Bloom's Level	Knowledge Category (KC)	
CO No.	Statement of Course Outcome		(BL)		
CO1	Understand different phases and passes of compiler along with LEX and YACC tool.	PO1, PO2, PO3, PO4, PO12	Understand	С	
CO2	Illustrate various parsing techniques i.e. Top-Down and Bottom-up parsers using LL, SLR, CLR, and LALR parsing table.	PO1, PO2, PO3, PO12	Apply	C,P	
СОЗ	Make use of Syntax Tree, DAG to generate the intermediate code in the form of 3-address code.	PO1, PO2, PO12	Apply	C,P	
CO4	Apply data structures used for Symbol Table, Run time organization and error in phases of compiler.	PO1, PO2, PO12	Understand	С	
CO5	Apply code optimization and Generation techniques resulting in Target Code.	PO1, PO2, PO3, PO12	Apply	C,P	

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
Prof. Arti Sharma	Sant -	Prof. Bhagvan Kumar Gupta	Ohr
Prof. Akash Goel	12		0 -

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- The theory courses/ project having credits 3 to 6 should have 5 number of COs. The laboratory course/ mini project/ seminar/ industrial training having credits less than 3 should have 5 number of COs. have 3 number of COs. The Project having 7 to 12 credits should have 6 to 10 number of COs.
- * The statement of a CO must be formed considering a proper structure having mandatory and optional parts. The mandatory parts are Action & Knowledge and optional parts Condition and Criteria.

Department of Computer Science

Program Name: B.Tech.

Academic Session: 2024-25

Year: 3rd

Semester: 5th

Course Name: Compiler Design

Course Code: KCS502

Course Coordinator Name: Prof. Arti Sharma

CO - PO/PSO Matrix

	Programme Outcome (PO)													PSO	
CO No.	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
COI	3	2	2	1	-	-	-	-	-	-	-	2	-	-	
CO2	3	3	1	-	-	-	-	-	-	-	-	2	-	ě	
CO3	3	3	-	-	-	-	-	-	-	-	-	2	-	-	
CO4	3	2	-	-	-	-	-	-	-	-	-	2	-	-	
CO5	3	3	2	-	:-	-	-	===	-	-	-	2	-	-	
O Target	3	2.6	1.67	1	-	-	-	=:	-	-	-	2	-	-	

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
Prof. Arti Sharma	Aut	Prof. Bhagvan Kumar Gupta	O L
Prof. Akash Goel			

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- The strength of correlation between COs and POs/PSOs/APOs should be represented as 1 (low correlation), 2 (medium correlation) and 3 (high correlation) in CO PO/APO/PSO Matrix.
- If there is no correlation, then put a "-" (dash).

Department of Computer Science

Program Name: B.Tech Course Name: DAA

Academic Session: 2024-25 Course Code: KCS503

Year: 3rd

Semester: 5th

Course Coordinator Name: Prof. Vivek Kumar Sharma

Course Outcomes

Course O	After completion of the course, the student will be able to	Relevant POs/ PSOs	Revised Bloom's Level	Knowledge Category (KC)
CO No.	- Statement of Course Outcome		(BL)	
CO1	Analyze the performance of algorithms using different asymptotic analysis methods	PO1, PO2, PO3, PO12, PSO1	Analyze	С, М
CO2	Understand the concept of Advance Data Structures	PO1, PO2, PO3, PO12, PSO1	Understand	С
CO3	Address computational problems using divide-and-conquer, greedy, and dynamic programming techniques	PO1, PO2, PO3, PO12, PSO1	Apply	C, P
CO4	Illustrate the applications of backtracking, branch-and-bound, string matching, and approximation algorithm.	PO1, PO2, PO3, PO12, PSO1	Apply	C, P
CO5	Understand the concept of P & NP-Problems	PO1, PO2, PO3, PO12, PSO1	Understand	С

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
Prof. Raj Kumar	Rote.	Dr. Akash Punhani	92
Prof. Vivek Kumar Sharma	12		

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- The theory courses/ project having credits 3 to 6 should have 5 number of COs. The laboratory course/ mini project/ seminar/ industrial training having credits less than 3 s have 3 number of COs. The Project having 7 to 12 credits should have 6 to 10 number of COs.
 - The statement of a CO must be formed considering a proper structure having mandatory and optional parts. The mandatory parts are Action & Knowledge and optional parts. Condition and Criteria.

KIET Group of Institutions, Delhi - NCR, Ghaziahad Department of Computer Science

Program Name: B.Tech

Academic Session: 2024-25

Semester: 50

Course Name: DAA

Course Code: KC8503

Course Coordinator Numer: Frof. Vivels Komur Sharma

- PO/PSO Mat	rix						hatenme	(PCV)					3-14	2
					Progr	amme t	PRICIPILA		0	10	11	12	2	2
CO No.	1	2	3	4	5	6	7	8	-7	-	-	-	3	-
COI	3	2	2	-	-	-	-	-	-	-	_	-		
	2	2	2		-	-	-	-	-	-		2	3	-
CO2	,		20		-	-		-	-	1 -	1 -	1 2	3	
CO3	3	2	2	-	-	-			1					
CO4	3	2	2	-	-	1 -	-	-	-	-	-	1 -	2	
	2	2	2	-	-	1	1 -	-	1 -	-	-	2	1 1	
CO5	3	-	1					-	1	-		2	2.6	l.
PO Target	3	2	2	-	-	-	1 -	1		1				

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Secure
Prof. Raj Kumar	Kt	Dr. Akash Punhani	9
Prof. Vivek Kumar Sharma			

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl HoD

Signature of HoD

- The strength of correlation between COs and POs/ PSOs/APOs should be represented as 1 (low correlation), 2 (medium correlation) and 3 (high correlation) in CO PO Matrix.
- . If there is no correlation, then put a "-" (dash).

Department of Computer Science

Program Name: B.Tech Course Name: OOSD

Course Code: KCS 054

Academic Session: 2024-25

Year: 3rd

Semester: 5th

Course Coordinator Name: Prof. Abhishek Goyal

Afte	r completion of the course, the student will be able to	Relevant POs/ PSOs	Revised Bloom's Level	Knowledge Category (KC)	
CO No.	Statement of Course Outcome	Reference 1 0 0 1 0 0 0	(BL)		
CO1	Understand the insights of object-oriented programming.	PO2, PO3, PO4, PO12	Understand	С	
CO2	Apply the role of overall modelling concepts using UML.	PO 2, PO3, PO4, PO5, PO12, PSO1	Apply	C,P	
CO3	Understand various object-oriented structures (SA/SD, JSD)	PO2, PO3, PO4, PO5, PO12, PSO1	Understand	C,P	
CO4	Apply programming language C++ w.r.t OOPS	PO2, PO3, PO4, PO12	Apply	C,P	
CO5	Implement C++ in object-oriented modelling.	PO2, PO3, PO4, PO12	Apply	C,P	

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
Prof. Abhishek Goyal		Prof. Pravin Srivastav	1,200
Prof. Vinay Pratap Singh	~PB		

Signature of Course Coordinator

Assoc./Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- The theory courses/ project having credits 3 to 6 should have 5 number of COs. The laboratory course/ mini project/ seminar/ industrial training having credits less than 3 have 3 number of COs. The Project having 7 to 12 credits should have 6 to 10 number of COs.
- The statement of a CO must be formed considering a proper structure having mandatory and optional parts. The mandatory parts are Action & Knowledge and optional Condition and Criteria.

Department of Computer Science

Program Name: B.Tech. Course Name: OOSD

Academic Session: 2024-25

Year:3rd

Semester: 5th

Course Code: KCS 052

Course Coordinator Name: Prof. Abhishek Goyal

CO - PO/PSO Matrix

- PO/PSO Mati	rix				Progr	amme O	utcome	(PO)					PS	O
CO No.		2	3	4	5	6	7	8	9	10	11	12	1	2
COL	-	2	3	2	-	-	-	-	-	-	-	2	-	•
CO1		3	3	3	2				-	-	-	3	2	
CO2	-					327				-	-	3	2	
CO3	-	3	3	2	-	-	-	-					1 = 2	
CO43	1	3	3	2	-	-	-	1-1	-	-	-	3	_	
CO5	1	3	3	2	-	-	-	-	-	-	-	3	-	\
PO Target	1	2.8	3	2.2	2	-	-	-	-	-	-	2.8	2	

pers Teaching the Course Signature
rivastav
_

Signature of Conse Coordinator

Assoc. Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- The strength of correlation between COs and POs/PSOs/APOs should be represented as 1 (low correlation), 2 (medium correlation) and 3 (high correlation) in CO PO/A Matrix.
- . If there is no correlation, then put a "-" (dash).

Department of Computer Science

Program Name: B.Tech

Academic Session: 2024-25

Year: 3rd

Semester: 5th

Course Name:

Machine Learning Techniques

Course Code: KOE055

Course Coordinator Name: Prof. Akansha Moral

Course Outcomes

Afte	er completion of the course, tl	e student will be able to	Relevant POs/ PSOs		evised n's Level	Knowledge
CO No.	Statement of	Course Outcome	Relevant Fos/ 150s		BL)	Category (KC)
CO1		hine learning for various proble blying.	PO2, PO6, PO10, PO11, PO12, PSO1	Und	lerstand	С
CO2	Understand a wide variety o	f learning algorithms and how to generated from data.	PO1, PO2, PO6, PO10, PO11, PO12, PSO1	А	pply	C,P
CO3	Understand the latest	trends in machine learning.	PO2, PO6, PO10, PO11, PO12, PSO1	Unc	derstand	С
CO4	Design appropriate machine algorithms to a	learning algorithms and apply to real-world problem.	PO1, PO2, PO6, PO9, PO10, PO11, PO12, PSO1	Α	pply	C,P
CO5	Optimize the models lear accuracy that can be ach	rned and report on the expected lieved by applying the models.	PO1, PO2, PO6, PO10, PO11, PO12, PSO1	А	apply	C,P
	Tembers Teaching the Course	Faculty Members Teaching the Course Signature Prof. Shruti Kumari			Signature	
Prof. Umn	ansha Moral	Olmpat.				

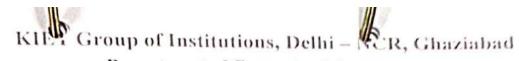
Signature of Course Coordinator

Assoc. FAsst. Head DOC

Signature of Addl. HoD

Signature of HoD

- The theory courses/ project having credits 3 to 6 should have 5 number of COs. The laboratory course/ mini project/ seminar/ industrial training having credits less than 3 should have 3 number of COs. The Project having 7 to 12 credits should have 6 to 10 number of COs.
- The statement of a CO must be formed considering a proper structure having mandatory and optional parts. The mandatory parts are Action & Knowledge and optional parts are Condition and Criteria.



Department of Computer Science

Program Name: B.Tech.

Academic Session: 2024-25

Semester: 5th

Course Name: Machine Learning Techniques

Course Code: KOE055

Course Coordinator Name: Prof. Akansha Moral

CO - PO/PSO Matrix

		Programme Outcome (PO)												PSO	
CO No.	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
CO1	-	1	_	-	-	2	-	-		11	1	1	2		
CO2	3	2	-	-	-	2	-	-	-	1	1	11	2	-	
CO3	-	1	-	-	-	2	-	-	-	1	1	1	2		
CO4	3	2	-	-	-	2	-		11_	1	1	11	2	-	
CO5	2	2	-	-	-	2	-	-	_	111	11	1	2	1	
PO Target	2.67	1.6	_	_	-	2	-	-	1	1	1	1	2		

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
Prof. Umnah	Ulmoul	Prof. Shruti Kumari	8.0
Prof. Akansha Moral	R		

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- The strength of correlation between COs and POs/PSOs/APOs should be represented as 1 (low correlation), 2 (medium correlation) and 3 (high correlation) in CO PO/. Matrix.
- ❖ If there is no correlation, then put a "-" (dash).

Department of Computer Science Year: 3rd

Program Name: B.Tech

Academic Session: 2024-25

Course Code: KNC-501

Course Coordinator Name: Dr. Akash Punhani

Semester: 5th

Course Na	ame: COI Course Code: KNC-501		Revised	Knowledge	
Course O	er completion of the course, the student will be able to	Relevant POs/ PSOs	Bloom's Level (BL)	Category (KC)	
CO No.	Statement of Course Outcome Identify the basic features and modalities about the Indian	PO6, PO8, PO12	Understand	F/C	
COI	constitution.		Understand	F/ C	
CO2	Relate the functioning of the Indian parliamentary system at the center and state level.	PO6, PO8, PO12	Understand	F/C	
CO3	Differentiate between different aspects of the Indian Legal System and its related bodies.	PO6, PO8, PO12	Apply	F /P	
604	Paraphrase intellectual property rights and innovation environment with related regulatory framework.	PO6, PO8, PO10, PO12	2-14-2		
CO4	Relate the role of engineers with different organizations and	PO6, PO8, PO10, PO11,	Understand	F/C	
CO5	governance models.	PO12			

			Signature
Faculty Members Teaching the Course	Digitature	Faculty Members Teaching the Course	Pare
Prof. Pawan Kumar Pal	the	Prof. Rohan Rathore	
Dr. Akash Punhani	then form		0

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- The theory courses/ project having credits 3 to 6 should have 5 number of COs. The laboratory course/ mini project/ seminar/ industrial training having credits less than 3 have 3 number of COs. The Project having 7 to 12 credits should have 6 to 10 number of COs.
- The statement of a CO must be formed considering a proper structure having mandatory and optional parts. The mandatory parts are Action & Knowledge and optional parts. Condition and Criteria.

Department of Computer Science

Program Name: B.Tech.

Course Name: COI CO - PO/PSO Matrix Academic Session: 2024-25

Course Code: KNC-501

Year: 3rd

Semester: 5th

Course Coordinator Name: Dr. Akash Punhani

								(PO)					PSC)
					Progr	amme O	utcome			10	11	12	1	2
CO No.	1	2	3	4	5	6	7	8	9	10	1		-	
	-				-	2	-	2	-	-	1 - 1	. 1	-	
COI	(-)	-			1-1-1-1					-	-	1	-	
		-	-	-	-	2	-	2	-	-	-	•		
CO2										-	_	1	-	
	-	-	-	-	-	2	-	2	1.7					
CO3								2	-	2	_	1	-	
601	-	-	-	-	-	2	-		_					-
CO4	11				-	2		2	-	-	2	1	-	
CO5	-	-	-	-	-	2	_							-
					-			2	-	2	2	1	-	1
PO Target	-	-	-	1 -		2	-	2						

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
Prof. Pawan Kumar Pal	Rel	Prof. Rohan Rathore	Zolica
Dr. Akash Punhani	Hear Jumi		

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- The strength of correlation between COs and POs/ PSOs/APOs should be represented as 1 (low correlation), 2 (medium correlation) and 3 (high correlation) in CO PO/AI Matrix.
- ❖ If there is no correlation, then put a "-" (dash).

Department of Computer Science

Program Name: B.Tech Course Name: DBMS Lab

Course Outcomes

Academic Session: 2024-25 Course Code: KCS551 Year: 3rd

Semester: 5th

Course Coordinator Name: Prof. Arushi Gupta

ACCUSED VIOLENCE	npletion of the course, the st	Service Control of the Control of th	Relevant POs/ PSOs	Revised Bloom's Level	Knowledge Category (KC)
CO No.	Statement	of Course Outcome		(BL)	
CO1		table creation, views, indexes and sing Oracle 10g express edition.	Apply	P	
CO2	Solve simple and complex of	queries using DDL, DML, DCL and TCL.	PO1, PO2, PO4, PO11, PO12	Apply	P
CO3		rential integrity, key constraints and straints on database.	PO1, PO2, PO4, PO11, PO12	Apply	P
CO4		cks, procedure functions, packages ggers, cursors.	PO1, PO2, PO4, PO11, PO12	Apply	P
CO5		na for a real-world problem like anagement system.	PO1, PO2, PO3, PO4, PO11, PO12, PSO1, PSO2	Apply	P
Faculty Me	embers Teaching the Course	Signature	aculty Members Teaching the C	Course	Signature
Dr. Ajay Sl	nrivastava	rof. Arushi Gupta	du	W.	
Dr. Gaurav	Dubey				

Signature of Course Coordinator

Assoc Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- The theory courses/ project having credits 3 to 6 should have 5 number of COs. The laboratory course/ mini project/ seminar/ industrial training having credits less than 3 should have 3 number of COs. The Project having 7 to 12 credits should have 6 to 10 number of COs.
- The statement of a CO must be formed considering a proper structure having mandatory and optional parts. The mandatory parts are Action & Knowledge and optional parts are Condition and Criteria.

KRT Group of Institutions, Delhi – NCR, Ghaziabad <u>Department of Computer Science</u>

Program Name: B.Tech.
Course Name: DBMS Lab

Academic Session: 2024-25 Course Code: KCS551

Year: 3rd

Semester: 5th

Course Coordinator Name: Prof. Arushi Gupta

CO - PO/PSO Matrix

CO No.		Programme Outcome (PO)											PSO	
CO No.	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	3	3	-	1	3	=	-	-	-	-	2	2	-	-
CO2	3	3	-	3	-	-	-	-	-	-	2	2	-	-
CO3	3	3	=	3	-	-	-	.=	-	-	2	2	-	-
CO4	3	3	-	3		-	-	8=	-	-	2	2	-	s .
CO5	3	3	2	3	-	-	-	-	-	-	2	3	2	:
O Target	3	3	2	2.60	3	-	W -	_	-	-	2.20	2.20	2	

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
Dr. Ajay Shrivastava	Or.	Prof. Arushi Gupta	levi-
Dr. Gaurav Dubey	Gon		

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- The strength of correlation between COs and POs/ PSOs/APOs should be represented as 1 (low correlation), 2 (medium correlation) and 3 (high correlation) in CO PO/APO. Matrix.
- . If there is no correlation, then put a "-" (dash).

Department of Computer Science

Program Name: B.Tech Course Name: CD Lab

Course Outcomes

Academic Session: 2024-25 Course Code: KCS552 Year: 3rd

Semester: 5th

Course Coordinator Name: Prof. Akash Goel

Λft	er completion of the course, the student will be able to	Relevant POs/ PSOs	Revised Bloom's Level	Knowledge Category (KC)
CO No.	Statement of Course Outcome		(1317)	Category (AC)
COI	Implement the Lexical Analyzer using C language and LEX tool.	PO1, PO2, PO5, PO9, PO12	Apply	C, P
CO2	Experiment with the knowledge of different parsers (Operator precedence, shift reduce etc.) using C language.	PO1, PO2, PO9, PO12	Apply	C, P
CO3	Implement Intermediate code generation and optimization for various expressions.	PO1, PO2, PO9, PO12	Apply	C, P
CO4	Design a basic tool that showcase phase(s) of the compiler.	PO1, PO2, PO3, PO4, PO9, PO11, PO12, PSO1	Apply	C, M

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
Prof. Arti Sharma	Dart	Prof. Bhagvan Kumar Gupta	Fr. H-
Prof. Akash Goel	2		013

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- The theory courses/ project having credits 3 to 6 should have 5 number of COs. The laboratory course/ mini project/ seminar/ industrial training having credits less than 3 so The training having 7 to 12 credits should have 6 to 10 number of COs.
- The statement of a CO must be formed considering a proper structure having mandatory and optional parts. The mandatory parts are Action & Knowledge and optional parts.

KET Group of Institutions, Denn - Nors,

Department of Computer Science

Program Name: B.Tech. Course Name: CD Lab Academic Session: 2024-25

Year: 3rd

Semester: 5th

Course Code: KCS552

Course Coordinator Name: Prof. Akash Goel

CO - PO/PSO Matrix

- PO/PSO Ma	<u>trix</u>												PSC)
					Progr	amme	Outcon	ne (PO)	10	11	12	1	2
CO No.	1	2	3	4	5	6	7	8	9	10	11			_
	1	2			2	_	-	-	1	-	-			-
CO1	3	3						200	1	-	-	2	-	-
CO2	3	3	-	-	-	-	-	-	-					1
CO3	3	3	_	-	-	-	-	-	1	-	-	2		-
		-							2	-	1	2	3	
CO4	3	3	1	2	-	-				-		-	3	
PO Target	3	3	1	2	2	-	-	-	1.25	12	1			

			A CONTRACTOR OF THE CONTRACTOR
Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
Prof. Arti Sharma	Jark	Prof. Bhagvan Kumar Gupta	(But)
Prof. Akash Goel	7		

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- The strength of correlation between COs and POs/ PSOs/APOs should be represented as 1 (low correlation), 2 (medium correlation) and 3 (high correlation) in CO PO/A Matrix.
- . If there is no correlation, then put a "-" (dash).

Department of Computer Science

Program Name: B.Tech Course Name: DAA Lab

Course Outcomes

Academic Session: 2024-25 Course Code: KCS 553

Year:3rd

Semester: 5th

Course Coordinator Name: Dr. Akash Punhani

Aft	er completion of the course, the student will be able to		Revised	Knowledge	
CO No.	Statement of Course Outcome	Relevant POs/ PSOs	Bloom's Level (BL)	Category (KC)	
CO1	Implement algorithm to solve problems by iterative approach.	PO1, PO2, PO3, PO4, PO5, PO12, PSO1	Apply	C, P	
CO2	Implement algorithm to solve problems by divide and conquer approach	PO1, PO2, PO3, PO4, PO5, PO12, PSO1	Apply	C, P	
CO3	Implement algorithm to solve problems by Greedy algorithm approach.	PO1, PO2, PO3, PO4, PO5, PO12, PSO1	Apply	C, P	
CO4	Implement algorithm to solve problems by Dynamic programming, backtracking, branch and bound approach	PO1, PO2, PO3, PO4, PO5, PO12, PSO1	Apply	C, P	

Faculty Members Teaching the Course	Şignature	Faculty Members Teaching the Course	Signature
Prof. Raj Kumar	lest.	Dr. Akash Punhani	92/
Prof. Vivek Kumar Sharma	N. C.		

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of Ho

- The theory courses/ project having credits 3 to 6 should have 5 number of COs. The laboratory course/ mini project/ seminar/ industrial training having credits less thave 3 number of COs. The Project having 7 to 12 credits should have 6 to 10 number of COs.
- The statement of a CO must be formed considering a proper structure having mandatory and optional parts. The mandatory parts are Action & Knowledge and optional condition and Criteria.

KAT Group of Institutions, Delhi -NCR, Ghaziabad <u>Department of Computer Science</u>

Program Name: B.Tech. Course Name: DAA Lab

Academic Session: 2024-25 Course Code: KCS 553

024-25 Year:3rd

:3rd Semester: 5th

Course Coordinator Name: Dr. Akash Punhani

CO - PO/PSO Matrix

CO No.		Programme Outcome (PO)												PSO	
CO 110.	2	3	4	5	6	7	8	9	10	11	12	1	2		
CO1	3	2	1	2	2		-	-	-	-	-	1	3	-	
CO2	3	2	1	2	2	-	-	-	-	-	- 1	1	3	-	
CO3	3	2	1	2	2	-	-	-	-	-	-	1	3	-	
CO4	3	2	1	2	3	-	-	-	-	-	-	1	3	-	
PO Target	3	2	1	2	2.25	-	-	 -	-	-	-	1	3	 	

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
Prof. Raj Kumar	Con Contraction of the Contracti	Dr. Akash Punhani	dean lum
Prof. Vivek Kumar Sharma	7		y.

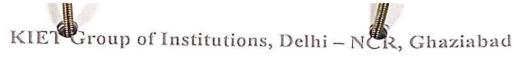
Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of F

- The strength of correlation between COs and POs/ PSOs/APOs should be represented as 1 (low correlation), 2 (medium correlation) and 3 (high correlation) in CO Matrix.
- If there is no correlation, then put a "-" (dash).



Department of Computer Science

Program Name: B.Tech Course Name: Mini Project

Academic Session: 2024-25

Year: 3rd

Semester: 5th

Course Code: KCS554

Course Coordinator Name: Prof. Vinay Pratap Singh

Course Outcomes

Af	ter completion of the course,	, the student will be able to			Revised	Knowledge
CO No.	Statement	of Course Outcome		Relevant POs/ PSOs	Bloom's Level (BL)	Category (KC)
CO1	PO9, 1			PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO10, PO11, PO12, PSO1, PSO2	Analyze	С
				PO1, PO2, PO3, PO4, PO5, PO9, PO11, PO12, PSO1, PSO2	Understand	С
CO3	Develop a projec	ct using latest technology.		PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO11, PO12, PSO1, PSO2	Apply	С
CO4	CO4 Develop professional skills and critical thinking to prepare for major project PO1, PO2, PO3, PO8, PO9, PO10, PSO1, P				Apply	С
CO5 Demonstrate an ability to present project works to the evaluators.				PO1, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2	Understand	С
	embers Teaching the Course	Signature	Facu	alty Members Teaching the Course	Sig	nature
Prof. Vinay	y Pratap Singh	WAS,	Prof	. Abhishek Goyal	No.	

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- The theory courses/ project having credits 3 to 6 should have 5 number of COs. The laboratory course/ mini project/ seminar/ industrial training having credits less than 3 should have 5 number of COs. have 3 number of COs. The Project having 7 to 12 credits should have 6 to 10 number of COs.
- The statement of a CO must be formed considering a proper structure having mandatory and optional parts. The mandatory parts are Action & Knowledge and optional parts are Condition and Criteria.

KIET Group of Institutions, Delhi – NCR, Ghaziabad Department of Computer Science

Program Name: B.Tech.
Course Name: Mini Project

Academic Session: 2024-25 Course Code: KCS554 Year:3rd

Semester: 5th

Course Coordinator Name: Prof. Vinay Pratap Singh

CO - PO/PSO Matrix

D - PO/PSO Mat	TIX .				Progra	amme C	utcom	e (PO)					PSC	C
CO No.	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	3	3	3	3	3	2	-	-	2	2	2	3	2	2
CO2	3	3	3	3	3	-	-	-	2	-	2	3	2	3
CO3	3	3	3	3	3	1	-	-	3	-	2	2	3	2
CO4	3	3	3	3	3	2	-	2	3	2	2	3	2	2
CO5	2	-	-	-	-	-	-	2	2	3	2	3	2	2
PO Target	2.8	3	3	3	3	1.67	-	2	2.4	2.33	2	2.80	2.2	2.2

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
Prof. Vinay Pratap Singh	wa.	Prof. Abhishek Goyal	No.

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- The strength of correlation between COs and POs/PSOs/APOs should be represented as 1 (low correlation), 2 (medium correlation) and 3 (high correlation) in CO PC Matrix.
- . If there is no correlation, then put a "-" (dash).

KIET Group of Institutions, Delhi - NCR, Ghaziabad

Department of Computer Science

Program Name: B.Tech Course Name: Software Testing Academic Session: 2024-25 Course Code: KCS076 Year: 4th

Semester: 7th

Course Coordinator Name: Prof. Shreela Pareek

Course Outcomes

	er completion of the course, the student will be able to	Relevant POs/ PSOs	Revised Bloom's Level (BL)	Knowledge Category (KC)
CO No.	Statement of Course Outcome	The second secon	Understand	C
CO1	Understand the basics of software testing, its objectives, validation and verification approach	PO1, PO2, PO4, PO8, PO10, PO11, PSO1	Onderstand	
CO2	Illustrate various functional and structural testing methods of software products.	PO1, PO2, PO4, PSO1	Apply	C, P
CO3	Determine the process of Test Selection for Regression Testing and minimization of test cases	PO1, PO2, PO4, PSO1	Understand	C, P
CO4	Explore testing activities and test data generation tools.	PO1, PO2, PO4, PO5, PO12, PSO1	Analyze	C, P
CO5	Apply object oriented and web application test cases on Testing tools.	PO1, PO2, PO4, PO5, PO12, PSO1	Apply	C, P

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
Dr. Kalpna Sagar	Lother	Prof. Shreela Pareek	Don
Prof. Rishabh Chakraborty	P		- Con

Signature of Course Coordinator

Assoc. Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- The theory courses/ project having credits 3 to 6 should have 5 number of COs. The laboratory course/ mini project/ seminar/ industrial training having credits less than have 3 number of COs. The Project having 7 to 12 credits should have 6 to 10 number of COs.
- The statement of a CO must be formed considering a proper structure having mandatory and optional parts. The mandatory parts are Action & Knowledge and optional Condition and Criteria.

KIET Group of Institutions, Delhi - CR, Ghaziabad

Department of Computer Science

Program Name: B.Tech. Course Name:

Software Testing

Academic Session: 2024-25 Course Code: KCS076

Semester: 7th

Course Coordinator Name: Prof. Shreela Pareek

- PO/PSO Mat					Prog	ramme	Outcom	e (PO)	anner.	1.0	11	12	1	2
GO No			2	4	5	6	7	8	9	10	1	-	1	-
CO No.	1	2	3	•		-	-	2	-	2	1		1	
COL	1	2	-	2	-							-	1	-
COI		2		2	-	-	-	-	-	-				
CO2	1	4	-						_	-	-	_	1	
	1	2	-	2	-	-	-	-						
CO3					2			-	-	-	-	2	2	
CO4	1	2	-	2	2	-					+	2	2	-
CO4		2	-	2	2	-	-	-	-	-	_		2	
CO5	1	2						-		2	1	2	1.4	-
		2		2	2	-	-	2	-	1 ~				

Faculty Members Teaching the Course Signature Dr. Kalpna Sagar	Faculty Members Teaching the Course Prof. Shreela Pareek Signature	
Prof. Rishabh Chakraborty		

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- Please Note (Reference: OBE Guidelines wef. Session 2021 22) The strength of correlation between COs and POs/PSOs/APOs should be represented as 1 (low correlation), 2 (medium correlation) and 3 (high correlation) in CO - PO/APO/PSO Matrix.
- ❖ If there is no correlation, then put a "-" (dash).

KIET Group of Institutions, Delhi - NCK, Ghaziabad

Department of Computer Science Academic Session: 2024-25

Program Name: B.Tech Course Name: Cloud Computing

Course Outcomes

Course Code: KCS713

Year: 4th

Semester: 7th

Course Coordinator Name: Prof. Vinay Pratap Singh

Aft	er completion of the course, the student will be able to		Revised	Knowledge	
CO No.	Statement of Course Outcome	Relevant POs/ PSOs	Bloom's Level (BL)	Category (KC	
CO1	Articulate the main concepts, key technologies, strengths, and limitations of cloud computing	PO1, PO5, PO8, PO12	Understand	F, C	
CO2	Apply Virtualization of hardware and software resources Like computing resources, memory and operating system in Cloud Computing	PO1, PO5, PO12	Apply	P	
CO3	Implement data access management, data storage and computing services on cloud.	PO1, PO5, PO12	Apply	P	
CO4	Understand the core issues of cloud computing such as resource management and security	PO1, PO5, PO12	Understand	F, C	
CO5	Classify cloud technologies for the next generation computing paradigm	PO1, PO5, PO12	Analyze	F, C, P	

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	λ Signature
Prof. Vinay Pratap Singh	- wolf	Prof. Anmol Jain	Smolden
Prof. Amit Kumar Singh Sanger	316000		

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- * The theory courses/ project having credits 3 to 6 should have 5 number of COs. The laboratory course/ mini project/ seminar/ industrial training having credits less than 3 should have 3 number of COs. The Project having 7 to 12 credits should have 6 to 10 number of COs.
- * The statement of a CO must be formed considering a proper structure having mandatory and optional parts. The mandatory parts are Action & Knowledge and optional parts are Condition and Criteria.

KIET Group of Institutions, Delhi - CR, Ghaziabad

Department of Computer Science

Program Name: B.Tech.

Academic Session: 2024-25

Year: 4th

Semester: 7th

Course Coordinator Name: Prof. Vinay Pratap Singh

Course Name: Cloud Computing

Course Code: KCS713

CO - PO/PSO Matrix

							Outcom	e (PO)					P	rso
GO N					Programme Outcome (I				9	10	11	12	1	2
CO No.	1	2	3	4	5	6	1	0	8 2		-	2	2	-
CO1	2	2	-	2	2	-	-	-		-	-	_		
COI	2	2	3	2	3		-	-	-	-	-	2	2	-
CO2	2	2	٦									2	2	 -
CO3	2	3	3	2	3	-	-	-	-	-	-	2	2	
CO4	2	3	-	2	3	-	-	-	-	-	2	2	2	-
CO5	2	3	-	3	3	-	-	-	-	-	2	3	3	-
PO Target	2	2.6	3	2.2	2.8	-	-		-	-	2	2.2	2.2	-

Faculty Members Teaching the Course	Signature/	Faculty Members Teaching the Course	Signature
Prof. Vinay Pratap Singh	NORT	Prof. Anmol Jain	Amoldey's
Prof. Amit Kumar Singh Sanger	31 Day		

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- The strength of correlation between COs and POs/PSOs/APOs should be represented as 1 (low correlation), 2 (medium correlation) and 3 (high correlation) in CO PO/APO/I
- If there is no correlation, then put a "-" (dash).

KIET Group of Institutions, Delhi - NCK, Ghaziahad

Academic Session: 2024-25 Year:

Semester: 7th

Program Name: 1. Tech Course Name: PME

Course Code: KHU 702

Course Coordinator Name: Prof. Shivani

Church ()	ter completion of the course, the student will be able to	Relevant POs/PSOs	Revised Bloom's Level (BL)	Knowledge Category (KC)	
CO No.	Statement of Course Outcome		Understand	C	
CO1	Understand the theories of entrepreneurship and entrepreneurial development program.	PO6, PO9, PO11,	Analyze	C. P	
CO2	Categorize innovative business ideas and market opportunities for business development.	PSO2 PO6, PO9, PO10, PO11	Understand	C	
CO3	Discuss the importance of project life cycle and different types of appraisal techniques.		Apply		
CO4	Compute different types of project financing requirements based on cash flow statements.	PO6, PO9, PO11, PSO1		C, P	
CO5	Describe social entrepreneurship opportunities and risk management techniques in social enterprises.	PO6, PO9, PO11, PSO2	Understand	C	

Tarabing the Course	Signature	Faculty Members Teaching the Course	Signature
Faculty Members Teaching the Course Prof. Neha Shukla	radie	Prof. Pravin Srivastav	Carrie
Prof. Shiyani	Shuard		

Signature of Course Coordinator

Signature of Addl. HoD

- The theory courses project having credits 3 to 6 should have 5 number of COs. The laboratory course/ mini project/ seminar/ industrial training having credits less than 3 should have 3 number of COs. The Project having 7 to 12 credits should have 6 to 10 number of COs.
- The statement of a CO must be formed considering a proper structure having mandatory and optional parts. The mandatory parts are Action & Knowledge and optional parts are Condition and Criteria.

KILT Group of Institutions, Delhi - NCR, Ghaziabad

Department of Computer Science

Program Name: B.Tech.

Course Name: PME CO - PO/PSO Matrix Academic Session: 2024-25

Course Code: KHU702

Semester: 7th

Course Coordinator Name: Prof. Shivani

CON	Programme Outcome (PO)												PSO	
CO No.	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	-	-	-	-	-	1	-8	-	2	1	-	-	-	-
CO2	-		1	- s	-	1	-	-	3	-	2	-	-	1
CO3	-	-	-	-	-	2	-	-	3	2	3	-		-
CO4	-	-	-	-	-	1	-	-	3	2	3	=	-	:-
CO5	-	-	-	-	-	2	-	-	2	-	1	-	-	2
PO Target	-	-	1	-	-	1.4	-		2.6	1.67	2.25	3 0	-	1.50

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
Prof. Neha Shukla	Jacks	Prof. Pravin Srivastav	Proxim
Prof. Shivani	Shinam		

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- The strength of correlation between COs and POs/PSOs/APOs should be represented as 1 (low correlation), 2 (medium correlation) and 3 (high correlation) in CO PO/APO/PSO Matrix.
- If there is no correlation, then put a "-" (dash).

KIET Group of Institutions, Delhi - NER, Ghaziabad

Department of Computer Science

Program Name: B.Tech Course Name: RER

Academic Session: 2024-25 Course Code: KOE-074

Semester: 7th Course Coordinator Name: Prof. Vandana

Course Outcomes

Af	ter completion of the course, the student will be able to	Relevant POs/ PSOs	Revised Bloom's Level	Knowledge	
CO No.	Statement of Course Outcome		(BL)	Category (KC)	
CO1	Classify the renewable and non-renewable sources of energy.	PO1, PO2, PO7	Understand	F	
CO2	Illustrate the working principle of various solar energy system.	PO1, PO2, PO7	Understand	F,C	
CO3	Discuss the Geothermal & Tidal energy, its mechanism of production and its applications.	PO1, PO2, PO12	Understand	F,C	
CO4	Interpret winds energy as alternative form of energy and its tapping.	PO1, PO2, PO7, PO12	Remember	F,C	
CO5	Summarize the basics of biomass energy sources and relevant thermos-dynamics	PO1, PO2, PO7	Understand	F,C	

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
Prof. Akanksha	An	Prof. Shruti Kumari	Donory
Prof. Vandana	Jordora		

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- The theory courses/ project having credits 3 to 6 should have 5 number of COs. The laboratory course/ mini project/ seminar/ industrial training having credits less than 3 should have 5 number of COs. have 3 number of COs. The Project having 7 to 12 credits should have 6 to 10 number of COs.
- The statement of a CO must be formed considering a proper structure having mandatory and optional parts. The mandatory parts are Action & Knowledge and optional parts a Condition and Criteria.

KAT Group of Institutions, Delhi - NCR, Ghaziabad

Department of Computer Science

Academic Session: 2024-25 Course Code: B.Tech

Year: 4th

Semester: 7th

Course Coordinator Name: Prof. Vandana

CO - PO/PSO Matrix

Course Name: RER

Program Name: B.Tech.

CO No.		1			Prog	gramme	Outcom	c (PO)					PSC	
CO No.	1	2	3	4	5	6	7	8	9	10	11	12	1	1 2
CO1	1			2	-	-	3	_	-	-	-	1	-	_
CO2	1	-	-	2	-	2	3	-	-	-	-	1	-	-
CO3	1	-	-	2	-	-	3	-	_	-	-	1	-	
CO4	1	-	-	2	-	-	3	-	_	-	-	1	-	
CO5	1	-	-	2	-	-	3	-	-	-	-	1	_	_
PO Target	1	-	-	2	_	2	3		_	_	-	-		25-25 25 25-25 25 25-25 25 25 25-25 25 25 25 25 25 25 25 25

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
Prof. Akanksha	(RO-	Prof. Shruti Kumari	Signature
Prof. Vandana	arclang		4

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- The strength of correlation between COs and POs/ PSOs/APOs should be represented as 1 (low correlation), 2 (medium correlation) and 3 (high correlation) in CO PO/APO/PSO Matrix.
- If there is no correlation, then put a "-" (dash).

KIET Croup of Institutions, Delhi - NCR, Ghaziabad

Program Name: B.Tech Course Name: ST Lab

Department of Computer Science Academic Session: 2024-25

Course Code: KCS751A

Semester: 7th

Course Coordinator Name: Prof. Rishabh Chakraborty Course Outcomes

Ai	ter completion of the course, the student will be able to	-	Revised	
CO No.	Statement of Course Outcome	Relevant POs/ PSOs	Bloom's Level	Knowledge Category (KC)
1	Derive effective test cases based on software requirements.	PO1, PO2, PO4, PO8, PO9, PO12	(BL) Apply	P
2	Apply a wide variety of testing techniques in an effective way.	PO1, PO2, PO4, PO5, PO8, PO12, PSO1	Apply	P
3	Simulate various test scenarios using automated software testing tool (Selenium).	PO1, PO2, PO4, PO5, PO8, PO12, PSO1	Apply	P
4	Analyze test plan for the project and report generation using Mantis BT.	PO1, PO2, PO4, PO5, PO8, PO9, PO12, PSO1	Analyze	P

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Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- The theory courses/ project having credits 3 to 6 should have 5 number of COs. The laboratory course/ mini project/ seminar/ industrial training having credits less than 3 should have 5 number of COs. have 3 number of COs. The Project having 7 to 12 credits should have 6 to 10 number of COs.
- The statement of a CO must be formed considering a proper structure having mandatory and optional parts. The mandatory parts are Action & Knowledge and optional parts.

KILT Group of Institutions, Delhi - NCR, Ghaziabad

Department of Computer Science

Program Name: B.Tech. Course Name: ST Lab Academic Session: 2024-25 Course Code: KCS751A

Year: 4th

Semester: 7th

Course Coordinator Name: Prof. Rishabh Chakraborty

CO - PO/PSO Matrix

					Pro	gramme	Outcom	ie (PO)					PSO	
CO No.	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	2	2		1	-	-	-	1	1	-	-	2	2	-
CO2	2	2	-	1	-	-	-	1	1	-	-	2	-	-
CO3	2	2	-	1	3	-	-	1	1	-	-	2	2	-
CO4	2	2	-	1	3	-	-	1	2	_	-	2	2	-
PO Target	2	2	-	1	3	-	-	1	1.25	-	-	2	2	1 -

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
Dr. Kalpna Sagar	Cosper .	Prof. Shreela Pareek	force
Prof. Rishabh Chakraborty	On		X-

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- The strength of correlation between COs and POs/PSOs/APOs should be represented as 1 (low correlation), 2 (medium correlation) and 3 (high correlation) in CO PO/APOs Should be represented as 1 (low correlation), 2 (medium correlation) and 3 (high correlation) in CO PO/APOs Should be represented as 1 (low correlation). Matrix.
- If there is no correlation, then put a "-" (dash).

KIET Group of Institutions, Delhi - NCR, Ghaziabad

Department of Computer Science

Program Name: B.Tech

Course Name: Internship Assessment

Academic Session: 2024-25

Course Code: KCS752

Year:

Semester: 7th Course Coordinator Name: Prof. Vivek Kumar Sharma

Course Outcomes

Af	Statement of Course Outcome	Relevant POs/ PSOs	Revised Bloom's Level (BL)	Knowledge Category (KC)
CO1	Identify a problem and gather its requirements.	PO1, PO2, PO3, PO6, PO10, PSO1, PSO2	Apply	С
CO2	Design a solution of the problem using latest tools & techniques.	PO1, PO2, PO3, PO6, PSO1, PSO2	Apply	P
CO3	Develop a project using latest technology.	PO1, PO2, PO3, PSO1, PSO2	Create	С
CO4	Develop professional skills and critical thinking to prepare for major project.	PO1, PO2, PO3, PO6, PO10, PSO1, PSO2	Analyze	P

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
Prof. Akanksha	(De	Prof. Vivek Kumar Sharma	And
Prof. Rajendra Kumar Patel	Rajendra Kumar		V

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- The theory courses/ project having credits 3 to 6 should have 5 number of COs. The laboratory course/ mini project/ seminar/ industrial training having credits less than have 3 number of COs. The Project having 7 to 12 credits should have 6 to 10 number of COs.
- * The statement of a CO must be formed considering a proper structure having mandatory and optional parts. The mandatory parts are Action & Knowledge and optional Condition and Criteria.

KET Group of Institutions, Delhi NCR, Ghaziabad

Department of Computer Science

Program Name: B.Tech.

Academic Session: 2024-25

Year:4th

Semester:7th

Course Name: Internship Assessment

Course Code: KCS752

Course Coordinator Name: Prof. Vivek Kumar Sharma

CO - PO/PSO Matrix

CO No.		Programme Outcome (PO)												PSO	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
CO1	3	3	3	-	-	2	= 1	-	-	2	-	-	2	2	
CO2	3	3	3	-	-	1	<u> </u>	-	-	-	-	-	2	3	
CO3	3	3	3	-		-	-	-	-	-	-	-	3		
CO4	3	3	3	-	-	2	=	-	-	2	-	-	2	2	
PO Target	3	3	3	-	-	1.67	-	-	-	2	-	-	2.25	2.3	

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
Prof. Akanksha	(Av	Prof. Vivek Kumar Sharma	duly
Prof. Rajendra Kumar Patel	Rajendra Kumar		4-

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

- The strength of correlation between COs and POs/PSOs/APOs should be represented as 1 (low correlation), 2 (medium correlation) and 3 (high correlation) in CO PO/A Matrix.
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KIET Group of Institutions, Delhi - NeR, Ghaziabad

Department of Computer Science

Program Name: B.Tech Course Name: Project Lab

Course Name: Project L Course Outcomes Academic Session: 2024-25 Course Code: KCS753

Year:4th

Semester: 7th

Course Coordinator Name: Prof. Sreesh Gaur

After completion of the course, the student will be able to		Relevant POs/ PSOs	Revised Bloom's Level (BL)	Knowledge Category (KC)
CO No.	Statement of Course Outcome			
COI	Select and summarize all aspects of real-life problem through information gathering.	PO2, PO3, PO4, PO5, PO6, PO7, PO9, PO10, PO11, PO12, PSO1, PSO2	Understand	C,P
CO2	Apply acquired knowledge to develop a C model.	PO2, PO3, PO4, PO5, PO6, PO7, PO9, PO10, PO11, PO12, PSO1, PSO2	Apply	С,Р
соз	Analyze the outcome of each phase using various tools and techniques.	PO2, PO3, PO4, PO5, PO6, PO7, PO9, PO10, PO11, PO12, PSO1, PSO2	Analyze	C,P
CO4	Defend the validity of idea or quality of result with the previous data/ result.	PO2, PO3, PO4, PO5, PO6, PO7, PO9, PO10, PO11, PO12, PSO1, PSO2	Evaluate	C,P
CO5	Test the working model and demonstrate the results by publishing the idea/outcome.	PO2, PO3, PO4, PO5, PO6, PO7, PO9, PO10, PO11, PO12, PSO1, PSO2	Create	C,P

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
Prof. Neha Shukla	Cele	Prof. Vandna	Jordany
Prof. Vikas Gangwar	Vikasta	Prof. Umnah	. I Imnaly
Prof. Rohan Rathore	Perha-	Prof. Pravin Srivastav	To William !

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

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- The statement of a CO must be formed considering a proper structure having mandatory and optional parts. The mandatory parts are Action & Knowledge and optional parts. Condition and Criteria.

KET Group of Institutions, Delhi NCR, Ghaziabad Department of Computer Science

Program Name: B.Tech. Course Name: Project Lab

Academic Session: 2024-25 Course Code: KCS753

Year: 4th

Semester: 7th Course Coordinator Name: Prof. Sreesh Gaur

CO - PO/PSO Matrix

CO No.					Prog	ramme	Outcom	e (PO)						
	1	2	3	4	5	6	7	8	_				PS	0
CO1	-	3	3	3	3	1		0	9	10	11	12	1	A. W. Co.
]	1	2	-	3	2	3	3	-	_
CO2	-	3	3	3	2	1	2		2				3	
					_	*	2		3	2	3	3	3	
CO3	_	3	3	3	2	1	2	-	3	2			22	
50.1	-	-					~		3	2	3	3	3	
CO4		3	3	3	2	1	2	-	3	2	2			
COS	-	3	3	2	_						2	2	3	
CO5		3	3	3	2	1	2	<u> </u>	3	2	1	2	3	\vdash
PO Target		-		200		720000000000000000000000000000000000000						2	٥	1
10 Target	-	3	3	3	2.2	1	2	_	3	2	2.4	2.6	3	+

Faculty Members Teaching the Course Prof. Neha Shukla	B-metal C	Faculty Members Teaching the Course	Signature
Prof. Vikas Gangwar	Yelle	Drof Mand	Landong
	O Kastert	Prof. Umnah	
Prof. Rohan Rathore	Falm	Prof. Pravin Srivastav	Umnah
Prof. Shruti	Exemon	Prof. Arushi Gupta	Andri

Signature of Course Coordinator

Assoc. Asst. Head DOC

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- The strength of correlation between COs and POs/PSOs/APOs should be represented as 1 (low correlation), 2 (medium correlation) and 3 (high correlation) in CO PO/ Matrix.
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