NIRF-2023
Engineering Rank Band (151-200)
Pharmacy Rank - 88
Innovation Rank Band (51-100)

www.kiet.edu
Delhi-NCR, Ghaziabad

KIET GROUP OF INSTITUTIONS
Connecting Life with Learning

Accredited by
NAAC with Grade "A+"

Department of CSE(AI&ML)

CO/PO Mapping

Odd Semester

Sem: III

Session-2023-24

SEMESTER –III

SN	Subject Code	Subject	Type	Category	Periods			Sessional Component		Sessional (SW) (TS/PS)	End Semester Examination (ESE)	Total SW+ESE	Credit Cr
					L	T	P	CT	TA	CT+TA	TE/PE		
1	BOE3** / BAS303	Science Based Open Elective/BSC (Maths-III/Math IV/ Math V)	T	ES/BS	3	1	0	20	10	30	70	100	4
2	BVE301 / BAS301	Universal Human Value and Professional Ethics/ Technical Communication	T	VA/HS	2	1	0	20	10	30	70	100	3
3	BCS301	Data Structure	T	PC	3	1	0	20	10	30	70	100	4
4	BCS302	Computer Organization and Architecture	T	PC	3	1	0	20	10	30	70	100	4
5	BCS303	Discrete Structures & Theory of Logic	T	PC	2	1	0	20	10	30	70	100	3
6	BCS351	Data Structure Lab	P	PC	0	0	2		50	50	50	100	1
7	BCS352	Computer Organization and Architecture Lab	P	PC	0	0	2		50	50	50	100	1
8	BCS353	Web Designing Workshop	P	PC	0	0	2		50	50	50	100	1
10	BCC301 / BCC302	Cyber Security/Python programming	T	VA	2	0	0	20	10	30	70	100	2
11	BCC351	Internship Assessment /Mini Project*	P							100		100	2
		Total			**15**	**5**	**6**						**25**

- **Mathematics –III** for CE / ENV and allied branches
- **Mathematics-IV** for Computer/Electronics/Electrical & allied Branches, Mechanical & Allied Branches Textile/Chemical & allied Branches
- **Mathematics-V** for Bio Technology / Agriculture Engineering

Department of CSE (AI&ML)

Program Name: B.Tech **Academic Session: 2023-24** **Year:2023** **Semester: III**
Course Name: Math-IV **Course Code:BAS-303** **Course Coordinator Name: Dr. Neelam Chantola**

Course Outcomes

After completion of the course, the student will be able to		Relevant POs/ PSOs/ APOs	Revised Bloom'sLevel (BL)	Knowledge Category (KC)
CO No.	**Statement of Course Outcome**			
CO1	Solve partial differential equations using Lagrange's method, Charpit method and other particular methods.	PO1, PO2, PO12	3	C & P
CO2	Apply the method of separation of variables to solve the Wave, Heat and Laplace equation. Application of Fourier transform.	PO1, PO2, PO3, PO12	3	C & P
CO3	Determine moments, correlation, linear regression lines and obtain best fitting curves to the given data.	PO1, PO2, PO3, PO4, PO5, PO12	3	C & P
CO4	Apply the concepts of probability to solve discrete and continuous probability problems.	PO1, PO2, PO3, PO4, PO5, PO12	3	C & P
CO5	Apply the theory of sampling to solve t-test, Z-Test, Chi square test problems and compute the control charts for variable and attributes.	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO 12	3	C & P

Faculty Members Teaching the Course	Signature
1. Dr. Neelam Chantola	Nchantola

Nchantola
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 should

Department of CSE (AI&ML)

Program Name: B.Tech **Academic Session: 2023-24** **Year:2023** **Semester: III**

Course Name: Math-IV **Course Code:BAS-303** **Course Coordinator Name: Dr. Neelam Chantola**

CO - PO/PSO/APO Matrix

CO No.	Programme Outcome (PO)												PSO/ APO	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	2	2	-	-	-	-	-	-	-	-	-	2	1	1
CO2	2	2	2	-	-	-	-	-	-	-	-	2	1	1
CO3	2	2	2	2	2	-	-	-	-	-	-	2	1	1
CO4	2	2	1	1	1	-	-	-	-	-	-	1	1	1
CO5	2	1	2	2	2	2	2	-	-	-	-	2	1	1
PO Target	2	1.8	1.75	1.67	1.67	2	2	-	-	-	-	1.8	1	1

Faculty Members Teaching the Course	Signature
1. Dr. Neelam Chantola	N Chantola

N Chantola

Signature of Course Coordinator **Assoc./ Asst. Head DOC** **Signature of Addl. HoD** **Signature of HoD**

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

KIETGroupofInstitutions, Delhi – NCR, Ghaziabad

Department of CSE (AI&ML)

Program Name: B.Tech **Academic Session: 2023-24** **Year:2023** **Semester: III**
CourseName:Universal Human Values **CourseCode:BVE-301** **Course Coordinator Name: Ms. Umang Kant**

CourseOutcomes

After completion of the course, the student will be able to		RelevantPOs/PSOs/ APOs	Revised Bloom'sLevel (BL)	KnowledgeCategory (KC)
CONo.	**StatementofCourseOutcome**			
CO1	Understand the need and process of value education, comparison between values & skill, the meaning of happiness and prosperity.	PO6, PO7, PO8	2	F, C
CO2	Analyze the Harmony in the Self "the Co-existence of Self and Body"	PO6, PO7, PO8	4	F, C
CO3	Understand the value of harmonious relationship based on trust, respect, and other naturally acceptable feelings in human-human relationships	PO6, PO7, PO8	2	F, C
CO4	Analyze the harmony in nature, mutually fulfilling and participation in the nature.	PO6, PO7, PO8	4	F, C
CO5	Decide the role of holistic understanding of harmony on professional ethics.	PO6, PO7, PO8	5	F, C

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
1. Ms. Kavya Gupta		2. Ms. Umang Kant	

Signature of CourseCoordinator **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).

Department of CSE (AI&ML)

Program Name: B.Tech **Academic Session: 2023-24 Year:2023** **Semester: III**
CourseName:Universal Human Values **CourseCode: BVE-301** **Course Coordinator Name: Ms. Kavya Gupta**

CO-PO/PSO/APOMatrix

CO No.	ProgrammeOutcome(PO)												PSO/ APO	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	-	-	-	-	-	2	2	3	1	1	1	1	-	-
CO2	-	-	-	-	-	2	2	3	1	1	1	1	-	-
CO3	-	-	-	-	-	2	2	3	1	1	1	1	-	-
CO4	-	-	-	-	-	2	2	3	1	1	1	1	-	-
CO5	-	-	-	-	-	2	2	3	1	1	1	1	-	-
POTarget	-	-	-	-	-	2	2	3	1	1	1	1	-	-

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
1. Ms. Kavya Gupta		2. Ms. Umang Kant	

Signature of CourseCoordinator **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).

Department of CSE (AI&ML)

Program Name: B.Tech **Academic Session: 2023-24** **Year:2023** **Semester: III**
CourseName:Data Structure **CourseCode:BCS-301** **Course Coordinator Name:Dr. Shelly Gupta**

CourseOutcomes

After completion of the course, the student will be able to		RelevantPOs/PSOs/ APOs	Revised Bloom'sLevel(BL)	KnowledgeCategory(KC)
CONo.	StatementofCourseOutcome			
CO1	Understand the concept of memory allocation and using it for array and linked list data structures.	PO1,PO2,PSO1	2	C
CO2	Apply the concept of stack and queue in finding solutions of real-world problems.	PO1,PO2,PO4,PSO1	3	P
CO3	Assess the searching and sorting algorithms, and recommend the best suited algorithm based on the given scenario.	PO1,PO2,PO3,PO4,PO5, PO6,PSO1	3	P
CO4	Contrast the role of Graph as non linear data structure and find the solutions of the problems using Graph based algorithm.	PO1,PO2,PO3,PO4,PO5, PO6,PO7,PO12,PSO1	4	P
CO5	Analyze the tree data structure and its variants applying these concepts for problem solving.	PO1,PO2,PO3,PO4,PO5, PO6,PO7,PO8,PO9,PO11, PO12,PSO1	4	P

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
1. Dr. Shelly Gupta	Shelly Gupta	2. Mr. Purshottam Trivedi	Purushottam

Signature of CourseCoordinator **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 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

Department of CSE (AI&ML)

Program Name: B.Tech **Academic Session: 2023-24 Year:2023** **Semester: III**
CourseName: Data Structure **CourseCode: BCS-301** **Course Coordinator Name:Dr. Shelly Gupta**

CO-PO/PSO/APOMatrix

CO No.	ProgrammeOutcome(PO)												PSO/ APO	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	3	3	3	3	-	-	-	-	2	2	3	3	3	-
CO2	3	3	3	3	-	-	-	-	2	2	3	3	3	-
CO3	3	3	3	3	-	-	-	-	2	2	3	3	3	-
CO4	3	3	3	3	-	-	-	-	2	2	3	3	3	-
CO5	3	3	3	3	-	-	-	-	2	2	3	3	3	-
POTarget	3	3	3	3	-	-	-	-	2	2	3	3	3	-

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
1. Dr. Shelly Gupta	Shelly Gupta	Mr. Purshottam Trivedi	Purushottam

Signature of CourseCoordinator **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 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

Department of CSE (AI&ML)

Program Name: B.Tech **Academic Session: 2023-24Year:2023** **Semester: III**
CourseName:Computer Organization and ArchitectureCourseCode:BCS-302 **Course Coordinator Name:Ms. Bhawna**

CourseOutcomes

After completion of the course, the student will be able to		RelevantPOs/PSOs/ APOs	Revised Bloom'sLevel (BL)	KnowledgeCategory (KC)
CONo.	**StatementofCourseOutcome**			
CO1	Describe the fundamental components of basic computer system and its organization.	PO1, PO2, PO3, PO4, PO5, PO12, PSO1	2	P, C
CO2	Apply arithmetic and logical microoperations on binary number system	PO1, PO2, PO3, PO4, PO5, PO12,PSO1	3	P, C
CO3	Analyze control unit design and concept of pipelining	PO1, PO2, PO3, PO4, PO5, PO12,PSO1	4	P, C
CO4	Examine memory hierarchy and numerical problem	PO1, PO2, PO3, PO4, PO5, PO12,PSO1	4	P, C
CO5	Analyze the concept of input output organization.	PO1, PO2, PO3, PO4, PO5, PO12, PSO1	4	P, C

Faculty Members Teaching the Course	Signature
1. Ms. Bhawna	

Signature of CourseCoordinator **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).

Department of CSE (AI&ML)

Program Name: B.Tech **Academic Session: 2023-24 Year:2023** **Semester: III**
CourseName:Computer Organization and ArchitectureCourseCode:BCS-302 **Course Coordinator Name: Ms. Bhawna**

CO-PO/PSO/APOMatrix

CO No.	ProgrammeOutcome(PO)												PSO/ APO	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	3	2	2	2	2	-	-	-	-	-	2	-	2	-
CO2	3	2	2	2	2	-	-	-	-	-	2	-	2	-
CO3	2	2	2	2	2	-	-	-	-	-	2	-	2	-
CO4	3	2	2	2	2	-	-	-	-	-	2	-	2	-
CO5	2	2	2	2	2	-	-	-	-	-	2	-	2	-
POTarget	2.6	2	2	2	2	-	-	-	-	-	2	-	2	-

Faculty Members Teaching the Course	Signature
1. Ms. Bhawna	

Signature of CourseCoordinator **Assoc./ Asst. Head DOC** **Signature of Addl. HoD** **Signature of HoD**

Department of CSE (AI&ML)

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).

Department of CSE (AI&ML)

Program Name: B.Tech **Academic Session: 2023-24 Year:2023** **Semester: III**
CourseName:Discrete Structures & Theory of Logic CourseCode:BCS-303 **Course Coordinator Name: Ms. Kavya Gupta**
CourseOutcomes

After completion of the course, the student will be able to		RelevantPOs/PSOs/ APOs	Revised Bloom'sLevel (BL)	KnowledgeCategory (KC)
CONo.	**StatementofCourseOutcome**			
CO1	Acquire Knowledge of sets, relations, and their properties.	PO1, PO2, PSO1	2	C, P
CO2	Apply fundamental concepts of functions and Boolean algebra.	PO1, PO2, PSO1	3	C, P
CO3	Employ the rules of propositions and predicate logic to solve the logical problems.	PO1, PO2, PO3, PO10,PO12, PSO1	3	C, P
CO4	Explore the concepts of group theory and their applications.	PO1, PO2, PO3, PO4,PO12, PSO1	4	C, P
CO5	Illustrate the principles and concepts of graph theory.	PO1, PO2, PO3,PO4, PO10, PO12, PSO1	3	C, P

Faculty Members Teaching the Course	Signature
1. Ms. Kavya Gupta	

Signature of CourseCoordinator **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 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

Program Name: B.Tech **Academic Session: 2023-24 Year:2023** **Semester: III**
CourseName:Discrete Structures & Theory of Logic CourseCode:BCS-303 **Course Coordinator Name:Ms. Kavya Gupta**

CO-PO/PSO/APOMatrix

CO No.	ProgrammeOutcome(PO)												PSO	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	3	2	-	-	-	-	-	-	-	-	-	-	2	-
CO2	2	2	-	-	-	-	-	-	-	-	-	-	2	-
CO3	3	2	2	-	-	-	-	-	-	2	-	2	2	-
CO4	3	2	2	3	-	-	-	-	-	-	-	2	2	-
CO5	3	2	3	2	-	-	-	-	-	2	-	2	2	-
POTarget	2.8	2	2.3	2.5	-	-	-	-	-	2	-	2	2	-

Faculty Members Teaching the Course	Signature
1. Ms. Kavya Gupta	

Signature of CourseCoordinator **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 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

Department of CSE (AI&ML)

Program Name: B.Tech **Academic Session: 2023-24 Year:2023** **Semester: III**
CourseName:Data Structure Lab **CourseCode:BCS-351** **Course Coordinator Name:Dr. Shelly Gupta**

CourseOutcomes

After completion of the course, the student will be able to		RelevantPOs/PSOs/ APOs	Revised Bloom'sLevel (BL)	KnowledgeCategory (KC)
CONo.	**StatementofCourseOutcome**			
CO1	Implement linear data structures Array, linked lists, stack, Queue, and their operations.	PO1, PO2 PO3, PO4, PO5, PO9, PO10, PO11 PO12, PSO2	5	C
CO2	Develop programs for sorting and searching algorithms using relevant data structures.	PO1, PO2 PO3, PO4, PO5, PO10, PO11 PO12, PSO2	4	F
CO3	Develop programs for implementing non-linear data structure trees, graphs, and their traversal operations.	PO1, PO2 PO3, PO4, PO5, PO10, PO11 PO12, PSO2	5	C

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
1. Dr. Shelly Gupta	Shelly Gupta	2.Mr. Purshottam Trivedi	Purushottam

Signature of CourseCoordinator **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).

Department of CSE (AI&ML)

Program Name: B.Tech **Academic Session: 2023-24 Year:2023** **Semester: III**
CourseName:Data Structure Lab **CourseCode:BCS-351** **Course Coordinator Name:Dr. Shelly Gupta**

CO-PO/PSO/APOMatrix

CO No.	ProgrammeOutcome(PO)												PSO	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	3	3	3	3	2	-	-	-	3	2	3	3	-	3
CO2	3	3	3	3	2	-	-	-	3	2	3	3	-	3
CO3	3	3	3	3	2	-	-	-	3	2	3	3	-	3
POTarget	3	3	3	3	2	-	-	-	3	2	3	3	-	3

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
1. Dr. Shelly Gupta	Shelly Gupta	2. Mr. Purshottam Trivedi	Purushottam

Signature of CourseCoordinator 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).

Department of CSE(AI&ML)

Program Name: B.Tech **Academic Session: 2023-24** **Year:2023** **Semester: III**
Course Name: Computer Organization and Architecture Lab **Course Code: BCS-352** **Course Coordinator Name: Ms. Bhawna**

Course Outcomes

After completion of the course, the student will be able to		Relevant POs/ PSOs/ APOs	Revised Bloom's Level (BL)	Knowledge Category (KC)
CO No.	**Statement of Course Outcome**			
CO1	Design the table of Half adder and subtractor and implement it by using logic gates.	PO1, PO2, PO3, PO4, PO5, PO12, PSO1	3	C, P
CO2	Convert and implement binary values to gray value and revert it by using gates.	PO1, PO2, PO3, PO4, PO5, PO12, PSO1	3	C, P
CO3	Draw the block diagram of Multiplexers and Decoders, verify their output by changing the selection inputs, and also verify the excitation tables of various flip-flops.	PO1, PO2, PO3, PO4, PO5, PO12, PSO1	3	C, P

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
1. Ms. Bhawna			

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 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 – NCR, Ghaziabad

Department of CSE(AI&ML)

Program Name: B.Tech **Academic Session: 2023-24** **Year:2023** **Semester: III**

Course Name: Computer Organization and Architecture Lab **Course Code: BCS-352** **Course Coordinator Name: Ms. Bhawna**

CO - PO/PSO/APO Matrix

CO No.	Programme Outcome (PO)												PSO	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	2	2	2	3	3	-	-	-	-	-	-	3	3	-
CO2	2	2	2	2	3	-	-	-	-	-	-	3	2	-
CO3	2	2	2	2	3	-	-	-	-	-	-	3	3	-
PO Target	2	2	2	2.4	3	-	-	-	-	-	-	3	2.7	-

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
1. Ms. Bhawna			

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).

Department of CSE (AI&ML)

Program Name: B.Tech **Academic Session: 2023-24 Year:2023** **Semester: III**
CourseName: Web Designing Workshop **CourseCode: BCS-353 Course Coordinator Name:Ms. Chanchal**
CourseOutcomes

After completion of the course, the student will be able to		RelevantPOs/PSOs/ APOs	Revised Bloom'sLevel(BL)	KnowledgeCategory(KC)
CONo.	**StatementofCourseOutcome**			
CO1	Design web content using HTML and CSS, producing visually appealing and responsive web pages.	PO1, PO9,PO11, PO12, PSO1	3	C, P
CO2	Apply JavaScript to add interactivity and dynamic functionality to websites, culminating in the development of single-page applications (SPAs) with React.	PO1, PO3, PO9, PO11 PO12, PSO1	3	C, P
CO3	Design modern web projects, demonstrating their ability to follow best practices and adapt to evolving industry standards.	PO1, PO3, PO9, PO11 PO12, PSO1	3	C, P

Faculty Members Teaching the Course	Signature
1. Ms. Chanchal	chanchal

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).

Department of CSE (AI&ML)

Program Name: B.Tech **Academic Session: 2023-24 Year:2023** **Semester: III**
CourseName: Web Designing Workshop **CourseCode: BCS-353 Course Coordinator Name:Ms. Chanchal**

CO-PO/PSO/APOMatrix

CO No.	ProgrammeOutcome(PO)												PSO	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	3	-	-	-	-	-	-	-	1	-	2	1	3	-
CO2	3	-	2	-	-	-	-	-	1	-	2	1	3	-
CO3	3	-	2	-	-	-	-	-	1	-	2	1	3	-
POTarget	3	-	2	-	-	-	-	-	1	-	2	1	3	-

Faculty Members Teaching the Course	Signature
1. Ms. Chanchal	chanchal

chanchal
Signature of CourseCoordinator

Assoc./ Asst. Head DOC

Rajeev
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).

Department of CSE (AI&ML)

Program Name: B.Tech **Academic Session: 2023-24 Year:2023** **Semester: III**
CourseName: Python Programming **CourseCode: BCC-302** **Course Coordinator Name: Dr. Abha Kiran Rajpoot**

CourseOutcomes

After completion of the course, the student will be able to		RelevantPOs/PSOs/ APOs	Revised Bloom'sLevel(BL)	KnowledgeCategory(KC)
CONo.	**StatementofCourseOutcome**			
CO1	Interpret the fundamental Python syntax and semantics and be fluent in the use of Python control flow statements.	PO1, PO2, PSO2	2	C
CO2	Express proficiency in the handling of strings and functions	PO1, PO2, PO4, PSO2	4	P
CO3	Determine the methods to create and manipulate Python programs by utilizing the data structures like lists, dictionaries, tuples, and sets.	PO1, PO2, PO3, PO4, PO5, PO6, PSO2	3	C
CO4	Identify the commonly used operations involving file systems and regular expressions.	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO12, PSO2	4	P
CO5	Articulate the Object-Oriented Programming concepts such as encapsulation, inheritance and polymorphism as used in Python	PO1, PO2, PO3, PO4,PO5, PO6, PO7, PO8,PO9, PO11, PO12, PSO2	4	C

Faculty Members Teaching the Course	Signature
1. Dr. Abha Kiran Rajpoot	

Signature of CourseCoordinator **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 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

KIETGroupofInstitutions, Delhi – NCR, Ghaziabad

Department of CSE (AI&ML)

Program Name: B.Tech **Academic Session: 2023-24 Year:2023** **Semester: III**
CourseName: Python Programming **CourseCode: BCC-302** **Course Coordinator Name: Dr. Abha Kiran Rajpoot**

CO-PO/PSO/APOMatrix

CO No.	ProgrammeOutcome(PO)												PSO	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	3	2	-	-	-	-	-	-	-	-	-	-	-	3
CO2	3	2	-	1	-	-	-	-	-	-	-	-	-	3
CO3	3	3	3	2	3	2	-	-	-	-	-	-	-	3
CO4	3	3	2	2	3	3	2	-	-	-	-	3	-	3
CO5	3	2	3	3	3	3	2	2	2	-	2	3	-	3
POTarget	3	2.4	2.7	2	3	2.7	2	2	2	-	2	3	-	3

Faculty Members Teaching the Course	Signature
1. Dr. Abha Kiran Rajpoot	

Signature of CourseCoordinator **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 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

KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of CSE(AI&ML)

Program Name: B.Tech **Academic Session: 2023-24** **Year:2023** **Semester: III**
Course Name: Mini Project/ Internship Assessment **Course Code: BCC-351** **Course Coordinator Name: Ms. Bhawna**

Course Outcomes

After completion of the course, the student will be able to		Relevant POs/ PSOs/ APOs	Revised Bloom's Level (BL)	Knowledge Category (KC)
CO No.	**Statement of Course Outcome**			
CO1	Explore potential areas in the field of Computer Science and Engineering (CSE).	PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO10, PO11, PO12, PSO1, PSO2	2	F
CO2	Compare various existing solutions to challenges in these areas.	PO1, PO2, PO3, PO4, PO5, PO9, PO11, PO12, PSO1, PSO2	5	C
CO3	Demonstrate the ability to work in teams, manage the study's conduct, propose a plan for creating a solution, and report the findings in the chosen domain.	PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO11, PO12, PSO1, PSO2	4	P

Faculty Members Teaching the Course	Signature
1. Ms. Bhawna	

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 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 – NCR, Ghaziabad

Department of CSE(AI&ML)

Program Name: B.Tech **Academic Session: 2023-24** **Year:2023** **Semester: III**
Course Name: Mini Project/ Internship Assessment **Course Code: BCC-351** **Course Coordinator Name: Ms. Bhawna**

CO - PO/PSO/APO 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	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
PO Target	3	3	3	3	3	1.5	0	0	2.4	2	2	2.7	2.4	2.4

Faculty Members Teaching the Course	Signature
1. Ms. Bhawna	

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).

NIRF-2023
Engineering Rank Band (151-200)
Pharmacy Rank - 88
Innovation Rank Band (51-100)

www.kiet.edu
Delhi-NCR, Ghaziabad

KIET GROUP OF INSTITUTIONS
Connecting Life with Learning

Accredited by
NAAC with Grade "A+"

Department of CSE(AI&ML)

CO/PO Mapping

Odd Semester

Sem: V

Session-2023-24

B.TECH.

COMPUTER SCIENCE AND ENGINEERING (ARTIFICIAL INTELLIGENCE & MACHINE LEARNING)

CURRICULUM STRUCTURE

SEMESTER- V

Sl. No.	Subject Codes	Subject	Periods			Evaluation Scheme				End Semester		Total	Credit
			L	T	P	CT	TA	Total	PS	TE	PE		
1	KCS501	Database Management System	3	1	0	30	20	50		100		150	4
2	KAI501	Artificial Intelligence	3	1	0	30	20	50		100		150	4
3	KCS503	Design and Analysis of Algorithm	3	1	0	30	20	50		100		150	4
4	Dept. Elective-I	Departmental Elective-I	3	0	0	30	20	50		100		150	3
5	Dept. Elective-II	Departmental Elective-II	3	0	0	30	20	50		100		150	3
6	KCS551	Database Management System Lab	0	0	2				25		25	50	1
7	KAI551	Artificial Intelligence Lab	0	0	2				25		25	50	1
8	KCS553	Design and Analysis of Algorithm Lab	0	0	2				25		25	50	1
9	KCS554	Mini Project or Internship Assessment*	0	0	2				50			50	1
10	KNC501/ KNC502	Constitution of India. Law and Engineering / Indian Tradition, Culture and Society	2	0	0	15	10	25		50			
11		MOOCs (Essential for Hons. Degree)											
		Total										**950**	**22**

*The Mini Project or internship (4 weeks) conducted during summer break after IV semester and will be assessed during V semester.

Department of CSE (AI&ML)

Program Name:B.Tech **Academic Session: 2023-24** **Year:2023** **Semester: V**
CourseName:Database Management System **CourseCode: KCS-501** **Course Coordinator Name: Dr. Sapna Juneja**

CourseOutcomes

After completion of the course, the student will be able to		RelevantPOs/PSOs/ APOs	Revised Bloom'sLevel (BL)	KnowledgeCategory (KC)
CONo.	**StatementofCourseOutcome**			
CO1	Describe the features of a database system,its languages, keys and relationship among the keys and structuring of ER Diagram	PO1, PO12, PSO1	2	C
CO2	Apply query processing techniques to automate the real timeproblems of databases.	PO1, PO2, PO3, PO5,PO10, PO11,PO12, PSO1	3	P
CO3	Illustrate the Normalization and its applicability in DatabaseDesigning.	PO1, PO10, PO11, PO12, PSO1	3	F, C
CO4	Identify the serializability and recovery and its associated concepts in transaction management.	PO1, PSO1	2	C
CO5	Explain different approaches of Concurrency control and related protocols	PO1, PO12, PSO1	2	C

Faculty Members Teaching the Course	Signature
1. Dr. Sapna Juneja	

Signature of CourseCoordinator **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 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

Department of CSE(AI&ML)

Program Name:B.Tech **Academic Session: 2023-24** **Year:2023** **Semester: V**
CourseName:Database Management System **CourseCode: KCS-501** **Course Coordinator Name:Dr. Sapna Juneja**

CO-PO/PSO/APOMatrix

CO No.	ProgrammeOutcome(PO)												PSO/ APO	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	3	-	-	-	-	-	-	-	-	-	-	2	3	-
CO2	2	3	3	-	2	-	-	-	-	3	2	1	3	-
CO3	3	-	-	-	-	-	-	-	-	1	1	1	3	-
CO4	2	-	-	-	-	-	-	-	-	-	-	1	3	-
CO5	2	-	-	-	-	-	-	-	-	-	-	1	3	-
POTarget	2.4	3	3	-	2	-	-	-	-	2	1.5	1.2	3	-

Faculty Members Teaching the Course	Signature
1. Dr. Sapna Juneja	

Signature of CourseCoordinator **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 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

Department of CSE(AI&ML)

Program Name:B.Tech **Academic Session: 2023-24** **Year:2023** **Semester: V**
CourseName:Artificial Intelligence **CourseCode: KAI-501** **Course Coordinator Name: Dr. Sayani Ghosal**

CourseOutcomes

After completion of the course, the student will be able to		RelevantPOs/PSOs/ APOs	Revised Bloom'sLevel(BL)	KnowledgeCategory(KC)
CONo.	**StatementofCourseOutcome**			
CO1	Understand the fundamental concepts, theories, and techniques in artificial intelligence (AI), and apply diverseapproaches foreffective problem-solving.	PO1, PO2, PSO2	2	C
CO2	Analyze search techniques and gaming theory.	PO1, PO2, PO4, PSO2	4	P
CO3	Apply knowledge representation techniques and problem-solving strategies to common AI applications.	PO1, PO2, PO3, PO4,PO5, PO6, PSO2	3	P
CO4	Examine the use case of AI in real-world societal problems and Software agents.	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO12,PSO2	4	P
CO5	Analyze the applicability of the Artificial Intelligence Approach to develop sustainable solutions using professional ethics.	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO11, PO12, PSO2	4	P

Faculty Members Teaching the Course	Signature
1. Dr. Sayani Ghosal	

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).

Department of CSE(AI&ML)

Program Name:B.Tech **Academic Session: 2023-24 Year:2023** **Semester: V**
CourseName:Artificial Intelligence **CourseCode: KAI-501** **Course Coordinator Name: Dr. Sayani Ghosal**

CO - PO/PSO/APO Matrix

CO No.	ProgrammeOutcome(PO)												PSO/ APO	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	3	2	-	-	-	-	-	-	-	-	-	-	-	3
CO2	3	2	-	1	-	-	-	-	-	-	-	-	-	3
CO3	3	3	3	2	3	2	-	-	-	-	-	-	-	3
CO4	3	3	2	2	3	3	2	-	-	-	-	3	-	3
CO5	3	2	3	3	3	3	2	2	2	-	2	3	-	3
POTarget	3	2.4	2.7	2	3	2.7	2	2	2	-	2	3	-	3

Faculty Members Teaching the Course	Signature
1. Dr. Sayani Ghosal	

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).

Department of CSE(AI&ML)

Program Name:B.Tech **Academic Session: 2023-24** **Year:2023** **Semester: V**
CourseName:Design and Analysis of Algorithm **CourseCode: KCS-503** **Course Coordinator Name: Mr. Abhishek Kumar**

CourseOutcomes

After completion of the course, the student will be able to		RelevantPOs/PSOs/ APOs	Revised Bloom'sLevel (BL)	KnowledgeCategory (KC)
CONo.	**StatementofCourseOutcome**			
CO1	Analyze running time of algorithms using asymptotic methods.	PO1, PO2, PO3, PO4, PO5, PO9, PO10, PO12, PSO1	3	C, P
CO2	Analyze advanced data structure algorithms to calculate their complexities.	PO1, PO2, PO3, PO4, POPO6, PO8, PO9, PO10, PO12, PSO1	3	C, P
CO3	Create solutions of Optimization problems using Greedy Approach.	PO1, PO2, PO3, PO4, PO5, PO6, PO8, PO9, PO10, PO11, PO12, PSO1	3	P, M
CO4	Apply backtracking, branch-bound and dynamic programming approaches for finding efficient solutions.	PO1, PO2, PO3, PO4, PO5, PO6, PO8, PO9, PO10, PO11, PO12, PSO1	3	P, M
CO5	Understand the concepts of NP completeness and find alternatesolutions using Randomized and approximation algorithms.	PO1, PO2, PO3, PO4, PO5, PO6, PO8, PO9, PO10, PO11, PO12, PSO1	3	P, M

Faculty Members Teaching the Course	Signature
1. Mr. Abhishek Kumar	Abhishek Kumar

Abhishek Kumar
Signature of CourseCoordinator **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 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

KIETGroupofInstitutions, Delhi – NCR, Ghaziabad

Department of CSE(AI&ML)

Program Name:B.Tech **Academic Session: 2023-24** **Year:2023** **Semester: V**
CourseName:Design and Analysis of Algorithm **CourseCode: KCS-503** **Course Coordinator Name: Mr. Abhishek Kumar**

CO-PO/PSO/APOMatrix

CO No.	ProgrammeOutcome(PO)												PSO/ APO	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	3	3	3	3	2	-	-	-	2	2	-	3	3	-
CO2	3	3	3	3	2	2	-	1	1	1	-	3	3	-
CO3	3	3	2	3	3	2	-	2	1	1	2	3	3	-
CO4	3	3	3	3	2	2	-	2	2	1	3	3	3	-
CO5	2	2	2	2	2	2	-	2	1	1	1	2	3	-
POTarget	2.8	2.8	2.6	2.8	2.2	1.6	-	1.8	1.4	1.2	1.2	2.8	3	-

Faculty Members Teaching the Course	Signature
1. Mr. Abhishek Kumar	Abhishek Kumar

Abhishek Kumar
Signature of CourseCoordinator

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 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

Department of CSE(AI&ML)

Program Name:B.Tech **Academic Session: 2023-24 Year:2023** **Semester: V**

CourseName:Mathematical Foundation AI, ML and Data Science (DE-1) CourseCode: KAI-051 Course Coordinator Name: Ms. Richa

CourseOutcomes

After completion of the course, the student will be able to		RelevantPOs/PSOs/ APOs	Revised Bloom'sLevel (BL)	KnowledgeCategory (KC)
CONo.	**StatementofCourseOutcome**			
CO1	Perform statistical analysis and appropriate statistical tests using R and visualize the outcome.	PO1, PO2, PO3, PO4,PO5, PO6, PO12 PSO2	2	C
CO2	Analyze the probability Distribution and linear method of regression analysis on a variety of data.	PO1, PO2, PO3, PO4,PO5, PO6, PO12 PSO2	4	P
CO3	Apply the manipulated data, design, and simple Monte Carlo experiments, and be able to use resampling methods.	PO1, PO2, PO3, PO4,PO5, PO6, PO12 PSO2	3	P
CO4	Examine the vector concept and advanced knowledge of inner product spaces with inequalities.	PO1, PO2, PO3, PO4,PO5, PO6, PO12 PSO2	4	P
CO5	Analyze Linear transformation and eigenvalues, eigenvectors, and their roles in orthogonal diagonalization of symmetric matrices.	PO1, PO2, PO3, PO4,PO5, PO6, PO12 PSO2	4	P

Faculty Members Teaching the Course	Signature
1. Ms. Richa Singh	

Signature of CourseCoordinator **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).

Program Name:B.Tech **Academic Session: 2023-24** **Year:2023** **Semester: V**
CourseName:Mathematical Foundation AI, ML and Data Science (DE-1) CourseCode: KAI-051 Course Coordinator Name:Ms. Richa

CO-PO/PSO/APOMatrix

CO No.	ProgrammeOutcome(PO)												PSO/ APO	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	3	2	2	2	2	3	-	-	-	-	-	2	-	2
CO2	3	2	2	2	2	3	-	-	-	-	-	2	-	2
CO3	2	2	2	2	2	3	-	-	-	-	-	2	-	2
CO4	3	2	2	2	2	2	-	-	-	-	-	2	-	2
CO5	2	2	2	2	2	3	-	-	-	-	-	2	-	2
POTarget	2.6	2	2	2	2	2	-	-	-	-	-	2	-	2

Faculty Members Teaching the Course	Signature
1. Ms. Richa Singh	

Signature of CourseCoordinator **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).

Department of CSE(AI&ML)

Program Name:B.Tech **Academic Session: 2023-24 Year:2023** **Semester: V**

CourseName:Business Intelligence and Analytics (DE-1)CourseCode: KDS-051 Course Coordinator Name: Dr. Abha Kiran Rajpoot

CourseOutcomes

After completion of the course, the student will be able to		RelevantPOs/PSOs/ APOs	Revised Bloom'sLevel (BL)	KnowledgeCategory (KC)
CONo.	**StatementofCourseOutcome**			
CO1	Define the importance of data in business by introducing Intelligence in business strategies.	PO1, PO2, PO3, PO4,PO11, PO12, PSO2	2	F
CO2	Explain the process of data analytics and best practices for datamining and pitfalls of managingdata analytics projects.	PO1, PO2, PO3, PO4, PO5, PO11, PO12, PSO2	3	M
CO3	Discuss fundamental concepts, theories, methods and modelswithin Business Intelligence and DataWarehousing	PO1, PO2, PO3, PO4, PO5, PO11, PO12, PSO2	3	C
CO4	Analyze business intelligence using different categorization ofoperations such as extraction, cleansing, integrating, visualizing using Tableau.	PO1, PO2, PO3, PO4, PO5, PO9,PO11, PSO2	4	C
CO5	Evaluate the impact of DM and DW and identify the Issues andchallenges.in managing capabilities and cost in Business bydecision analysis.	PO1, PO2, PO3, PO4, PO5, PO6,PO11, PO12, PSO2	4	M

Faculty Members Teaching the Course	Signature
1. Dr. Abha Kiran Rajpoot	

Signature of CourseCoordinator **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 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

Department of CSE(AI&ML)

Program Name:B.Tech **Academic Session: 2023-24** **Year:2023** **Semester: V**
CourseName:Business Intelligence and Analytics (DE-1)CourseCode: KDS-051 Course Coordinator Name:Dr. Abha Kiran Rajpoot

CO-PO/PSO/APOMatrix

CO No.	ProgrammeOutcome(PO)												PSO	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	2	3	2	3	-	-	-	-	-	-	2	3	-	2
CO2	3	3	3	2	3	-	-	-	-	-	3	2	-	3
CO3	2	2	2	3	2	-	-	-	-	-	2	3	-	2
CO4	3	3	3	2	3	-	-	-	2	-	3	2	-	3
CO5	3	2	3	3	3	2	-	-	-	-	2	3	-	3
POTarget	2.6	2.6	2.6	2.6	2.2	2	-	-	2	-	2.4	2.6	-	2.6

Faculty Members Teaching the Course	Signature
1. Dr. Abha Kiran Rajpoot	

Signature of CourseCoordinator **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 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

Department of CSE(AI&ML)

Program Name:B.Tech **Academic Session: 2023-24 Year:2023** **Semester: V**
CourseName:Cloud Computing (DE-2) **CourseCode: KML-051** **Course Coordinator Name: Ms. Anjali Chauhan**
CourseOutcomes

After completion of the course, the student will be able to		RelevantPOs/PSOs/ APOs	Revised Bloom'sLevel (BL)	KnowledgeCategory KC)
CONo.	**StatementofCourseOutcome**			
CO1	Describe architecture and underlying principles of cloud computing.	PO1, PO2, PSO2	2	C
CO2	Explain need, types, and tools of Virtualization for cloud.	PO1, PO2, PO3, PO4, PSO2	4	P
CO3	Describe Services Oriented Architecture and various types of cloudservices.	PO1, PO2, PO3, PO4, PO5, PO6, PSO2	3	P
CO4	Explain Inter cloud resources management cloud storage services and their providers Assess security services and standards for cloud computing	PO1, PO2, PO3, PO4, PO5, PO6, PO12, PSO2	4	P
CO5	Analyze advanced cloud technologies.	PO1, PO2, PO3, PO4, PO5, PO6, PO8, PO9, PO11, PO12, PSO2	4	P

Faculty Members Teaching the Course	Signature
1. Ms. Anjali Chauhan	

Signature of CourseCoordinator **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).

Department of CSE(AI&ML)

Program Name:B.Tech **Academic Session: 2023-24** **Year:2023** **Semester: V**
CourseName:Cloud Computing (DE-2) **CourseCode: KML-051** **Course Coordinator Name: Ms. Anjali Chauhan**

CO-PO/PSO/APOMatrix

CO No.	ProgrammeOutcome(PO)												PSO	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	3	2	-	-	-	-	-	-	-	-	-	-	-	3
CO2	3	2	3	2	-	-	-	-	-	-	-	-	-	3
CO3	3	2	3	2	3	2	-	-	-	-	-	-	-	3
CO4	3	2	3	2	3	2	-	-	-	-	-	2	-	3
CO5	3	2	3	2	3	2	-	2	2	3	3	2	-	3
POTarget	**3**	**2**	**3**	**2**	**3**	**2**	**-**	**2**	**2**	**3**	**3**	**2**	**-**	**3**

Faculty Members Teaching the Course	Signature
1. Ms. Anjali Chauhan	

Signature of CourseCoordinator **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).

Department of CSE(AI&ML)

Program Name:B.Tech **Academic Session: 2023-24 Year:2023** **Semester: V**
CourseName:Natural Language Processing (DE-2) **CourseCode: KAI-052** **Course Coordinator Name: Dr. Sayani Ghosal**

CourseOutcomes

After completion of the course, the student will be able to		RelevantPOs/PSOs/ APOs	Revised Bloom'sLevel (BL)	KnowledgeCategory (KC)
CONo.	**StatementofCourseOutcome**			
CO1	Define the fundamentals concepts of natural language processing, their various phases with word level analysis.	PO1, PO2, PO3, PO4,PO9, PO12, PSO2	2	C, P
CO2	Understand the depth level concept of syntactic analysis with grammatical rules in NLP.	PO1, PO2, PO3, PO4,PO9, PO12, PSO2	2	C, P
CO3	Analyze the role of semantic analysis in NLP with word sense disambiguation.	PO1, PO2, PO3, PO4,PO5, PO9, PO12, PSO2	4	C, P
CO4	Explain the basic concept of Speech Processing and Related Parameters of Speech.	PO1, PO2, PO3, PO4,PO5, PO9, PO12, PSO2	2	C, P
CO5	Apply feature extraction approach for various real world NLP applications.	PO1, PO2, PO3, PO4,PO5, PO6, PO7, PO8, PO9, PO11, PO12, PSO2	3	C, P

Faculty Members Teaching the Course	Signature
1. Dr. Sayani Ghosal	

Signature of CourseCoordinator **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 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

Department of CSE(AI&ML)

Program Name:B.Tech **Academic Session: 2023-24** **Year:2023** **Semester: V**
CourseName:Natural Language Processing (DE-2) **CourseCode: KAI-052** **Course Coordinator Name: Dr. Sayani Ghosal**

CO-PO/PSO/APOMatrix

CO No.	ProgrammeOutcome(PO)												PSO	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	2	3	2	1	-	-	-	-	2	-	-	2	-	3
CO2	3	3	3	2	-	-	-	-	2	-	-	1	-	3
CO3	3	3	3	2	2	-	-	-	2	-	-	1	-	3
CO4	3	2	3	2	2	-	-	-	2	-	-	1	-	3
CO5	2	2	2	3	3	2	2	2	2	-	2	2	-	3
POTarget	2.6	2.6	2.6	2	1.4	2	2	2	2	-	2	1.4	-	3

Faculty Members Teaching the Course	Signature
1. Dr. Sayani Ghosal	

Signature of CourseCoordinator **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 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

KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of CSE(AI&ML)

Program Name: B.Tech. **Academic Session: 2023-24** **Year:2023** **Semester: V**
Course Name: Database Management System Lab **Course Code: KCS-551** **Course Coordinator Name: Dr. Sapna Juneja**

Course Outcomes

After completion of the course, the student will be able to		Relevant POs/ PSOs/ APOs	Revised Bloom's Level (BL)	Knowledge Category (KC)
CO No.	**Statement of Course Outcome**			
CO1	Apply oracle 10 g for creatingtables and other database objects.	PO1, PO9, PO11, PO12, PSO1	3	C, P
CO2	Implement a database schema for anycase study.	PO1, PO3, PO9, PO11, PO12, PSO1	3	C, P
CO3	Write and execute simple and complex queries using DDL, DML by enforcing integrity constraints.	PO1, PO3, PO9, PO11, PO12, PSO1	3	C, P

Faculty Members Teaching the Course	Signature
1. Dr. Sapna Juneja	

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 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 – NCR, Ghaziabad

Department of CSE(AI&ML)

Program Name: B.Tech. **Academic Session: 2023-24** **Year:2023** **Semester: V**
Course Name: Database Management System Lab **Course Code: KCS-551** **Course Coordinator Name: Dr. Sapna Juneja**

CO - PO/PSO/APO Matrix

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

Faculty Members Teaching the Course	Signature
1. Dr. Sapna Juneja	

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).

KIETGroupofInstitutions, Delhi – NCR, Ghaziabad

Department of CSE(AI&ML)

Program Name:B.Tech **Academic Session: 2023-24** **Year:2023** **Semester: V**
CourseName:Artificial Intelligence Lab **CourseCode: KAI-551** **Course Coordinator Name: Ms. Richa Singh**
CourseOutcomes

After completion of the course, the student will be able to		RelevantPOs/PSOs/ APOs	Revised Bloom'sLevel (BL)	KnowledgeCategory (KC)
CONo.	**StatementofCourseOutcome**			
CO1	Understand the concept of AI using Python.	PO1, PO2, PO3, PO4, PO5, PSO1, PSO2	4	M
CO2	Implement different AI Techniques in practical life.	PO1, PO2, PO3, PO4, PO5, PSO1, PSO2	5	F
CO3	Understand the practical application of Natural Language toolkit.	PO1, PO2, PO3, PO4, PO5, PO7, PO9, PO11, PO12, PSO1, PSO2	4	C

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
1. Dr. Sayani Ghosal		2. Ms. Richa Singh	

Signature of CourseCoordinator **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 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

Department of CSE(AI&ML)

Program Name:B.Tech **Academic Session: 2023-24** **Year:2023** **Semester: V**
CourseName:Artificial Intelligence Lab **CourseCode: KAI-551** **Course Coordinator Name: Ms. Richa Singh**

CO-PO/PSO/APOMatrix

CO No.	ProgrammeOutcome(PO)												PSO	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	2	1	2	1	1	-	-	-	-	-	-	-	1	1
CO2	2	2	3	2	1	-	-	-	-	-	-	-	1	1
CO3	3	2	3	2	2	3	3	-	3	-	2	2	1	2
POTarget	2.3	1.6	2.6	1.6	1.3	3	3	-	3	-	2	2	1	1.3

Faculty Members Teaching the Course	Signature	Faculty Members Teaching the Course	Signature
1. Dr. Sayani Ghosal		2. Ms. Richa Singh	

Signature of CourseCoordinator **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 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

Department of CSE(AI&ML)

Program Name: B.Tech **Academic Session: 2023-24** **Year:2023** **Semester: V**
Course Name: Design and Analysis of Algorithm Lab **Course Code: KCS-553** **Course Coordinator Name: Mr. Abhishek Kumar**

Course Outcomes

After completion of the course, the student will be able to		Relevant POs/ PSOs/ APOs	Revised Bloom's Level (BL)	Knowledge Category (KC)
CO No.	Statement of Course Outcome			
CO1	Understand basic techniques for designing algorithms, including the techniques of recursion and iterative approach.	PO1,PO2,PO3,PO4,PO5,PO6,PO11,PO12,PSO2	2	C, P
CO2	Apply algorithms to solve real world problems using various algorithm design strategies.	PO1,PO2,PO3,PO4,PO5,PO6,PO11,PO12,PSO2	3	C, P
CO3	Analyze the performance of algorithms with respect to time and space complexity.	PO1,PO2,PO3,PO4,PO5,PO6,PO11,PO12,PSO2	4	C, P

Faculty Members Teaching the Course	Signature
1. Mr. Abhishek Kumar	

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 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 – NCR, Ghaziabad

Department of CSE(AI&ML)

Program Name: B.Tech **Academic Session: 2023-24** **Year:2023** **Semester: V**

Course Name: Design and Analysis of Algorithm Lab **Course Code: KCS-553** **Course Coordinator Name: Mr. Abhishek Kumar**

CO - PO/PSO/APO Matrix

CO No.	Programme Outcome (PO)												PSO	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	3	2	2	2	2	2	-	-	-	-	2	2	-	1
CO2	3	2	2	2	2	2	-	-	-	-	2	2	-	2
CO3	3	2	2	2	2	2	-	-	-	-	2	2	-	2
PO Target	3	2	2	2	2	2	-	-	-	-	2	2	-	1.67

Faculty Members Teaching the Course	Signature
1. Mr. Abhishek Kumar	

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 – NCR, Ghaziabad

Department of CSE(AI&ML)

Program Name: B.Tech **Academic Session: 2023-24** **Year:2023** **Semester: V**
Course Name: Mini Project/Internship Assessment **Course Code: KCS-554** **Course Coordinator Name: Ms. Bhawna**

CO - PO/PSO/APO 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	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
PO Target	**3**	**3**	**3**	**3**	**3**	**1.5**	-	-	**2.4**	**2**	**2**	**2.7**	**2.4**	**2.4**

Faculty Members Teaching the Course	Signature
1. Ms. Bhawna	

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).

Department of CSE(AI&ML)

Program Name: B.Tech **Academic Session: 2023-24** **Year:2023** **Semester: V**
Course Name: Mini Project/Internship Assessment **Course Code: KCS-554** **Course Coordinator Name: Ms. Bhawna**

Course Outcomes

After completion of the course, the student will be able to		Relevant POs/ PSOs/ APOs	Revised Bloom's Level (BL)	Knowledge Category (KC)
CO No.	**Statement of Course Outcome**			
CO1	Identify a problem and gather its requirements, then design a solution using the latest tools and techniques.	PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO10, PO11, PO12, PSO1, PSO2	2	F
CO2	Develop a project utilizing the latest technology to address the identified problem.	PO1, PO2, PO3, PO4, PO5, PO9, PO11, PO12, PSO1, PSO2	5	C
CO3	Enhance professional skills and critical thinking through the development process, culminating in the ability to present project work to evaluators.	PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO11, PO12, PSO1, PSO2	4	P

Faculty Members Teaching the Course	Signature
1. Ms. Bhawna	

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 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 CSE(AI&ML)

Program Name:B.Tech **Academic Session: 2023-24** **Year:2023** **Semester: V**
CourseName:Constitution of India **CourseCode: KNC-501** **Course Coordinator Name: Dr. Shelly Gupta**

CourseOutcomes

After completion of the course, the student will be able to		RelevantPOs/PSOs/ APOs	Revised Bloom'sLevel(BL)	KnowledgeCategory (KC)
CONo.	**StatementofCourseOutcome**			
CO1	Explore the basic features and modalities about the Indian constitution.	PO6, PO7	2	F, C
CO2	Analyze the functioning of Indian parliamentary system at the center and state level	PO6, PO7,	3	F, P
CO3	Explore aspects of the Indian Legal System and its related bodies.	PO6, PO7, PO8	2	F, C
CO4	Apply different laws and regulations related to engineering practices.	PO6, PO7, PO8, PO10	2	F, C
CO5	Correlate role of engineers with different organizations and governance models	PO6, PO7, PO8, PO9,PO10, PO11, PO12	2	F, C

Faculty Members Teaching the Course	Signature
1. Dr. Shelly Gupta	

Signature of CourseCoordinator **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).

Department of CSE(AI&ML)

Program Name:B.Tech **Academic Session: 2023-24** **Year:2023** **Semester: V**
CourseName:Constitution of India **CourseCode: KNC-501** **Course Coordinator Name:Dr. Shelly Gupta**

CO-PO/PSO/APOMatrix

CO No.	ProgrammeOutcome(PO)												PSO	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	-	-	-	-	-	3	2	-	-	-	-	-	-	-
CO2	-	-	-	-	-	3	2	-	-	-	-	-	-	-
CO3	-	-	-	-	-	3	2	1	-	-	-	-	-	-
CO4	-	-	-	-	-	3	2	2	-	2	-	-	-	-
CO5	-	-	-	-	-	2	2	2	2	2	2	2	-	-
POTarget	-	-	-	-	-	2.8	2	1.6	2	2	2	2	-	-

Faculty Members Teaching the Course	Signature
1. Dr. Shelly Gupta	

Signature of CourseCoordinator **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).