



Department of Mechanical Engineering

Course Outcomes & CO-PO Mapping Odd Sem (2024-25)

KIET Group of Institutions, Delhi – NCR, Ghaziabad


Department of Mechanical Engineering

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

Academic Session: 2024-25
Course Code: K24AS11

Year: I Semester: I
Course Coordinator Name: Dr. Sachin Kumar

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 the concept of partial differentiation in application of homogeneous and composite functions.	PO1, PO2, PO3, PO8, PO12	3	C,P
CO2	Apply knowledge of partial differentiation in extrema, series expansion of functions and Jacobians.	PO1, PO2, PO3, PO8, PO12	3	C,P
CO3	Construct the transformations using the concept of analyticity and harmonicity of complex functions.	PO1, PO2, PO3, PO8, PO12	3	C,P
CO4	Employ the concept of multiple integration to find the area of bounded region.	PO1, PO2, PO3, PO8, PO12	3	C,P
CO5	Apply the concept of vector differentials to study the properties of point functions.	PO1, PO2, PO3, PO8, PO12	3	C,P

Faculty Members Teaching the Course	Signature
1. Dr. Barkha Rohtagi	






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 MECHANICAL ENGINEERING


Program Name: B. Tech
Course Name: CFE

Academic Session: 2024-25
Course Code: K24AS11

Year: I Semester: I
Course Coordinator Name: Dr. Sachin Kumar

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	-	-	-	2	-	-
CO2	2	2	2	-	-	-	-	1	-	-	-	2	-	-
CO3	3	2	2	-	-	-	-	1	-	-	-	1	-	-
CO4	2	2	2	-	-	-	-	1	-	-	-	1	-	-
CO5	3	2	2	-	-	-	-	1	-	-	-	1	-	-
PO Target	2.4	2	2	-	-	-	-	1	-	-	-	1.4	-	-

Faculty Members Teaching the Course	Signature
1. Dr. Barkha Rohtagi	



Signature of Course Coordinator



Assoc./ Asst. Head DOC



Signature of Addl. HoD



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Department of ME

Program Name: B.TECH

Academic Session: 2024-25

Year: 2024

Semester: I

Course Name: Semiconductor Physics & Devices Course Code: K24AS12

Course Coordinator Name: Dr. Divendra Sharma

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	Illustrate the basic concept of crystalline materials and their appropriate use.	PO1, PO 2, PO 6, PO 7, PO 10, PO 12	3	C,P
CO2	Apply the fundamentals of basic semiconductor Physics on transistor and MOSFET.	PO1, PO 2, PO 6, PO 7, PO 10, PO 12	3	C,P
CO3	Apply the concepts of semiconductor Physics in aspect of solar cell and Zener diode.	PO1, PO 2, PO 6, PO 7, PO 10, PO 12	3	C,P
CO4	Implementing of semiconductor Physics to study various characteristics of optoelectronic devices.	PO1, PO 2, PO 6, PO 7, PO 10, PO 12	4	C,P
CO5	Apply the concept of Quantum Physics to study various phenomenon.	PO1, PO 2, PO 10, PO 12	3	C,P
Faculty Members Teaching the Course		Signature		
Dr. Soniya Juneja				

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

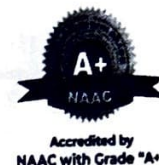
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Connecting Life with Learning



Department of ME

Program Name: B.TECH

Academic Session: 2024-25


Year: 2024

Semester: I

Course Name: Semiconductor Physics & Devices Course Code: K24AS12

Course Coordinator Name: Dr. Dharendra Sharma

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	1	-	-	-	2	2	-	-	2	-	3		
CO2	3	2	-	-	-	2	2	-	-	2	-	3		
CO3	3	2	-	-	-	2	2	-	-	2	-	3		
CO4	3	2	-	-	-	2	2	-	-	2	-	3		
CO5	2	1	-	-	-	-	-	-	-	1	-	2		
PO Target	2.6	1.6	-	-	-	2	2	-	-	1.8	-	2.8		
Faculty Members Teaching the Course									Signature					
Dr. Soniya 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).

KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical Engineering

Program Name: B.Tech

Academic Session: 2024-25

Year: I Semester: I

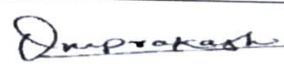
Course Name: Programming for Problem Solving(PPS)

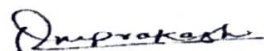
Course Code: K24IT11

Course Coordinator Name: Mr. Omprakash Kushwaha

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 programming constructs of C language to solve real-world problems.	PO1,PO2,PO5,PO8, PO12,PSO2	3	C,P
CO2	Use the concepts of looping, branching, and decision-making statements for a given problem.	PO1,PO2,PO4,PO5,PO8, PO12,PSO2	3	C,P
CO3	Develop Solutions to problems using modular programming constructs such as functions and recursion.	PO1,PO2,PO4,PO5,PO8, PO12,PSO2	6	C,P,M
CO4	Demonstrate the ability to write C programs using Array, pointers and strings.	PO1,PO2,PO3,PO4,PO5, PO8,PO12,PSO2	3	C,P
CO5	Design a solution to problems using the concepts of structure, union, pointers and files handling.	PO1,PO2,PO3,PO4,PO5, PO8,PO12,PSO2	6	C,P,M

Faculty Members Teaching the Course	Signature
1. Mr. Omprakash Kushwaha	



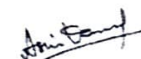
Signature of Course Coordinator



Assoc./ Asst. Head DOC



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KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical Engineering

Program Name: B.Tech

Academic Session: 2024-25

Year: I

Semester: I

Course Name: Exploration in Electrical Engineering

Course Code: K24EEE13

Course Coordinator Name: Dr Yaduvir Singh

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 the concepts of electric circuit solutions with DC supply using mesh-nodal analysis and Network Theorems.	PO1, PO2, PO3, PO4, PO12	2	C
CO2	Apply the concepts of electrical circuits with AC supply in single and three phase system	PO1, PO2, PO3, PO4, PO12	3	C,P
CO3	Analyze the equivalent circuit and performance of single phase AC transformer	PO1, PO2, PO3, PO4, PO12	4	C,P
CO4	Illustrate the working principle of induction motors, synchronous machines and DC machines.	PO1, PO2, PO3, PO4, PO12	4	C,P

Faculty Members Teaching the Course	Signature
1. Dr Yaduvir Singh	Dr Yaduvir Singh

Dr Yaduvir Singh

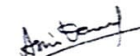
Signature of Course Coordinator



Assoc./ Asst. Head DOC



Signature of Addl. HoD



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KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical Engineering

Program Name: B.Tech

Academic Session: 2024-25

Year: I

Semester: I

Course Name: Exploration in Electrical Engineering

Course Code: K24EEE13

Course Coordinator Name: Dr Yaduvir Singh

CO - PO/PSO/APO Matrix

CO No.	Programme Outcome (PO)											PSO/APO		
	1	2	3	4	5	6	7	8	9	10	11	1 2	1	2
CO1	2	2	2	2	-	-	-	-	-	-	-	2		
CO2	3	2	2	2	-	-	-	-	-	-	-	2		
CO3	3	3	2	2	-	-	-	-	-	-	-	3		
CO4	3	3	2	2	-	-	-	-	-	-	-	3		
PO Target	2.75	2.5	2	2	-	-	-	-	-	-	-	2.5		

Faculty Members Teaching the Course	Signature
Dr Yaduvir Singh	Dr Yaduvir Singh

Dr Yaduvir Singh

Signature of Course Coordinator



Assoc./ Asst. Head DOC



Signature of Addl. HoD



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Department of Mechanical Engineering

Program Name: B.Tech.

Academic Session: 2024-25

Year: 2024

Semester: I

Course Name: IoT and Embedded Systems

Course Code: K24EEE11

Course Coordinator Name: Prof. Salim

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 the basic concepts of sensors and transducers.	PO 1, PO 5, PO 6, PO 7, PO 12 / PSO-2	2	C, P
CO2	Understand the basics of embedded systems and different IoT boards.	PO 1, PO 3, PO 5, PO 6, PO 7, PO 9, PO 12 / PSO-2	2	C, P
CO3	Apply basic operations and programming techniques of IoT devices.	PO 1, PO 3, PO 4, PO 5, PO 6, PO 7, PO 9, PO 12 / PSO-2	3	C, P
CO4	Apply smart technology knowledge through case studies.	PO 1, PO 2, PO 3, PO 4, PO 5, PO 6, PO 7, PO 9, PO 12 / PSO-2	3	C, P

Faculty Members Teaching the Course	Signature
1. Dr. Sourav Diwania	

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

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Department of Mechanical Engineering

Program Name: B.Tech
Course Name: IoT and Embedded Systems

Academic Session: 2024-25
Course Code: K24EEE11

Year: 2024
Semester: I
Course Coordinator Name: Prof. Salim

CO - PO/PSO/APO Matrix

CO No.	Program Outcome (PO)												PSO	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	2	-	-	-	2	2	2	-	-	-	-	2	-	2
CO2	2	-	2	-	2	2	2	-	2	-	-	2	-	2
CO3	3	-	3	2	3	2	2	-	2	-	-	2	-	3
CO4	3	2	3	3	3	2	2	-	2	-	-	2	-	3
PO Target(Avg)	2.5	2	2.66	2.5	2.5	2	2		2			2		2.5

Faculty Members Teaching the Course	Signature
1. Dr. Sourav Diwania	

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

Signature of HoD

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

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KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical Engineering

Program Name: B.Tech

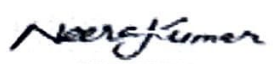
Academic Session: 2024-25 Year: I Semester: I

Course Name: DESIGN THINKING

Course Code: K24CSIT11 Course Coordinator Name: Mr Neeraj 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 the basic requirements of a good design	PO1,PO2,PO3,PO4,PO5, PO6,PO7,PO9,PO10,PO12, PSO1	2	C
CO2	Empathise and ideate the solutions to problems in his environment	PO1,PO2,PO3,PO4,PO5, PO6,PO7,PO9,PO10,PO12, PSO1	4	C
CO3	Prototype and test the developed solutions.	PO1,PO2,PO3,PO4,PO5, PO6,PO9,PO10,PO12,PSO1	3	P
CO4	Apply the principles of design thinking on developing innovative solutions to the real world problems.	PO1,PO2,PO3,PO4,PO5, PO6,PO7,PO9,PO10,PO12, PSO1	3	C

Faculty Members Teaching the Course	Signature
1. Mr Neeraj Kumar	



Signature of Course Coordinator



Assoc./ Asst. Head DOC



Signature of Addl. HoD



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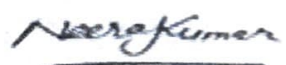
Department of Mechanical Engineering

Program Name: B.Tech
Course Name: DESIGN THINKING

Academic Session: 2024-25 Year: I Semester: I
Course Code: K24CSIT11 Course Coordinator Name: Mr Neeraj Kumar

CO - PO/PSO/APO Matrix

CO-PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CG1	1	3	3	2	2	2	2	-	2	2	-	2	3	-
CO2	1	3	3	2	2	2	2	-	2	2	-	2	3	-
CO3	1	3	3	2	2	2	-	-	2	2	-	2	3	-
CO4	1	3	3	2	2	2	2	-	2	2	-	2	3	-

Faculty Members Teaching the Course	Signature
2. Mr Neeraj Kumar	



Signature of Course Coordinator



Assoc./ Asst. Head DOC



Signature of Addl. HoD



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Department of ME

Program Name: B.TECH

Academic Session: 2024-25

Year: 2024

Semester: I

Course Name: Semiconductor Physics & Devices Lab Course Code: K24A312 P

Course Coordinator Name: Dr. Dharendra Sharma

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	Illustrate the basic concept of crystalline materials and their appropriate use.	PO1, PO 2, PO 6, PO 7, PO 10, PO 12	3	C,P
CO2	Apply the fundamentals of basic semiconductor Physics on transistor and MOSFET.	PO1, PO 2, PO 6, PO 7, PO 10, PO 12	3	C,P
CO3	Apply the concepts of semiconductor Physics in aspect of solar cell and Zener diode.	PO1, PO 2, PO 6, PO 7, PO 10, PO 12	3	C,P
CO4	Implementing of semiconductor Physics to study various characteristics of optoelectronic devices.	PO1, PO 2, PO 6, PO 7, PO 10, PO 12	4	C,P
CO5	Apply the concept of Quantum Physics to study various phenomenon.	PO1, PO 2, PO 10, PO 12	3	C,P
Faculty Members Teaching the Course		Signature		
Dr. Soniya Juneja				

Signature of Course Coordinator

Assoc./ Asst. Head DOC

Signature of Addl. HoD

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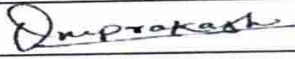

KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical Engineering

Program Name: B.Tech
Course Name: PPS LAB
Course Outcomes

Academic Session: 2024-25 Year: I Semester: I
Course Code: K24IT11P Course Coordinator Name: Mr. Omprakash Kushwaha

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	Demonstrate the basic syntax, data types, and control structures of the C programming language.	PO1,PO2,PO3,PO4,PO5,P08,PO9,PO12, PSO2	3	C,P
CO2	Apply the concepts of variables, operators, loops, and conditional statements to solve programming problems.	PO1,PO2,PO3,PO4,PO5,P08,PO9,PO12, PSO2	3	C,P
CO3	Code arrays and memory management concepts, including dynamic memory allocation and deallocation, using functions like malloc() and free()	PO1,PO2,PO3,PO4,PO5,P08,PO9,PO12, PSO2	6	C,P,M
CO4	Demonstrate proficiency in file handling operations, such as reading from and writing to files using C programming language.	PO1,PO2,PO3,PO4,PO5,P08,PO9,PO12, PSO2	3	C,P
CO5	Develop skills in problem-solving, algorithmic thinking, and logical reasoning through project based learning .	PO1,PO2,PO3,PO4,PO5,P08,PO9,PO12, PSO2	6	C,P,M

Faculty Members Teaching the Course	Signature
1. Mr. Omprakash Kushwaha	
2. Mr. Shivam	



Signature of Course Coordinator



Assoc./ Asst. Head DOC



Signature of Addl. HoD



Signature of HoD

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KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical Engineering

Program Name: B.Tech

Academic Session: 2024-25

Year: I

Semester: I



Course Name: FPS LAB

Course Code: K24IT11P

Course Coordinator Name: Mr. Omprakash Kushwaha

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	3	3	2	2	2	-	-	1	2	-	-	2	-	2
CO2	3	3	2	2	2	-	-	1	2	-	-	2	-	2
CO3	3	3	2	2	2	-	-	1	2	-	-	2	-	2
CO4	3	3	2	2	2	-	-	1	2	-	-	2	-	2
CO5	3	3	2	2	2	-	-	1	2	-	-	2	-	2
PO Target	3	3	2	2	2	-	-	1	2	-	-	2	-	2

Faculty Members Teaching the Course	Signature
Mr. Omprakash Kushwaha	
Mr. Shivam	



Signature of Course Coordinator



Assoc./ Asst. Head DOC



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Department of Mechanical Engineering

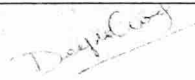
Program Name: B. Tech
Course Name: Math IV

Academic Session: 2024-25
Course Code: BAS 303

Year: 2nd Semester: III
Course Coordinator Name: Dr. Neelam Sharma

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	Solve partial differential equations by Lagrange, Charpit and other particular methods..	PO1,PO2,PO12/PSO1,PSO2	3	C&P
CO2	Apply the method of separation of variables to solve Wave , Heat and Laplace equation. Application of Fourier transform.	PO1,PO2,PO3,PO12/PSO1,PSO2	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/PSO1PSO,2	3	C&P
CO4	Apply the concept of probability to solve discrete and continuous probability problems.	PO1,PO2,PO3,PO4,PO5,PO12/PSO1PSO,2	3	C&P
CO5	Apply the theory of sampling to solve t-test, z-test and Chisquare test problems.	PO1,PO2,PO3,PO4,PO5,PO6,PO7,PO12/PSO1,PSO2	3	C&P

Faculty Member Teaching the Course	Signature
Dr Deepti Goel	

FOR

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 Application and Critical.

KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical Engineering

Program Name:

Academic Session: 2024-25

Year: 2nd

Semester: **VI**


Course Name:

Course Code: BAS 303

Course Coordinator Name: Dr. Neelam Sharma

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	1.6	1.6	2	2					1.8	1	1


Faculty Member Teaching the Course	Signature
Dr Deepti Goel	

FOR


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 Mechanical Engineering

Program Name: B. Tech

Course Name: Technical communication

Course Outcomes

Academic Session: 2024-25

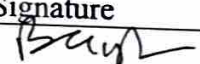
Course Code: BAS-301

Year: II

Course Coordinator Name: Dr. Babita Tyagi

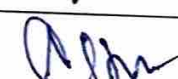
Semester: III

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	Describe the nature and objective of Technical Communication relevant for the work place as Engineers.	PO-10, PO-12	2	C
CO2	Ascertain understanding of key concepts of writing, designing and speaking.	PO-10, PO-12	3	P
CO3	Illustrate the technical writing skills for the purposes of Technical Communication and its exposure in various dimensions.	PO-10, PO-12	4	P
CO4	Attain interpersonal communication traits that will make the transition from institution to workplace smoother and help them to excel in their jobs.	PO-10, PO-12	3	C
CO5	Apply technical communication to build their personal brand and handle crisis communication	PO-10, PO-12	3	C

Faculty Members Teaching the Course	Signature
1. Dr Babita Tyagi	


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 Mechanical Engineering

Program Name: B.Tech

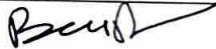
Academic Session: 2023-24 Year: II Semester: III

Course Name: Technical communication

Course Code: BAS-301 Course Coordinator Name: Babita Tyagi

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										3		1		
CO2										3		1		
CO3										3		1		
CO4										3		1		
CO5										3		1		
PO Target										2.4		.8		

Faculty Members Teaching the Course	Signature
Dr. Babita Tyagi	


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.

CO No.	Statement of Course Outcome	Relevant POs/PSOs	Bloom's Cognitive Process Level (BL)	Knowledge Category (KC)
After completion of the course, the student will be able to				
CO1	Apply the concept of heat and work, temperature and thermodynamic processes.	PO1, PO2, PO3, PSO2	3	F,C, P
CO2	Analyze the first law of thermodynamics applicable to thermodynamic systems.	PO1, PO2, PO3, PSO2	4	F,C, P
CO3	Analyze second law of thermodynamics and concept of entropy on various thermodynamic systems.	PO1, PO2, PO3, PSO2	4	F,C, P
CO4	Analyze the concept of availability, irreversibility, Second Law efficiency and understanding of thermodynamic relations.	PO1, PO2, PO3	4	F,C, P
CO5	Analyze the properties of pure substance using steam table, mollier diagram and apply it to simple Rankine Cycle.	PO1, PO2, PO3	4	F,C, P

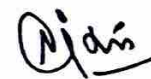
Faculty Members Teaching the Course	Signature
Dr. Ashish Karnwal	



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 Mechanical Engineering

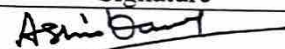
Program Name: B.Tech
Course Name: Thermodynamics

Academic Session: 2024-25
Course Code: BME301

Year: II Semester: III
Course Coordinator Name: Dr. Ashish Karnwal

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											2
CO2	3	3	3											2
CO3	3	3	3											2
CO4	3	2	2											
CO5	3	3	3											
PO Target	2.6	2.6	2.6											2

Faculty Members Teaching the Course	Signature
Dr. Ashish Karnwal	


Signature of Course Coordinator


Assoc./ Asst. Head DOC


Signature of Addl. HoD


Signature of HoD

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

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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 are Condition and Criteria.

KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical Engineering

Program Name: B.Tech

Academic Session: 2024-25

Year: 2

Semester: 3

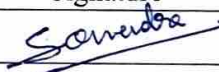
Course Name: Fluid Mechanics and Fluid Machines

Course Code: BME 302

Course Coordinator Name: SONENDRA

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 the basics of fluid mechanics and Bernoulli's equation.	PO1,PO2,PO9,PO10,PO11,PO12,PSO2	3	C
CO2	Analyse different types of flow and continuity equation.	PO1,PO2,PO9,PO10,PO11,PO12,PSO2	4	F
CO3	Analyse laminar and turbulent flow, losses in pipes and boundary layer theory.	PO1,PO2,PO9,PO10,PO11,PO12,PSO2	4	C
CO4	Analyse the principle of impact of jet and working of different types of turbines	PO1,PO2,PO9,PO10,PO11,PO12,PSO2	4	C
CO5	Analyse the principle and working of centrifugal and reciprocating pumps.	PO1,PO2,PO9,PO10,PO11,PO12,PSO2	4	C


Faculty Members Teaching the Course	Signature
1. Sonendra	



Signature of Course Coordinator



Assoc./ Asst. Head DOC



Signature of Addl. HoD



Signature of HoD

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

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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 are Condition and Criteria.

KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical Engineering

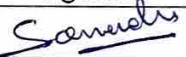
Program Name: B.Tech
Fluid Mechanics and Fluid Machines

Academic Session: 2024-25
Course Code: BME 302

Year: 2
Semester: 3 Course Name:
Course Coordinator Name: Sonendra

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	3	2							1	2	2	3		2
CO2	3	2							1	2	2	3		2
CO3	3	2							1	2	2	3		2
CO4	3	2							1	2	2	3		2
CO5	3	2							1	2	2	3		2
PO Target	3	2							1	2	2	3		2

Faculty Members Teaching the Course	Signature
1. Sonendra	


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 Mechanical Engineering

Program Name: B.Tech

Academic Session: 2024-25

Year: 2nd


Semester: 3rd

Course Name: Material Engineering

Course Code: BME-303

Course Coordinator Name: Dr. Anurag Gupta

After completion of the course, the student will be able to		RelevantPOs/PSOs/ APOs	Revised Bloom's Level(BL)	Knowledge Category(KC)
CO No.	Statement of Course Outcome			
CO1	Analyse the properties of ferrous and non-ferrous materials.	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO12, PSO1	4	F
CO2	Analyse the microstructure properties and phase diagram of engineering materials.	PO1, PO2, PO3, PO4, PO6, PO12	4	F
CO3	Apply heat treatment method to modify the material properties.	PO1, PO2, PO4, PO6, PO7, PO12	3	P
CO4	Analyse effect of different alloying elements on the properties of ferrous and nonferrous alloys.	PO1, PO2, PO3, PO4, PO6, PO7, PO12	4	F
CO5	Analyse the mechanism of material failure under creep.	PO1, PO2, PO3, PO4, PO6, PO7, PO12	4	F

Faculty Members Teaching the Course	Signature
I.Dr. Anurag Gupta	



Dr. Anurag Gupta

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 Mechanical Engineering

Program Name: B.Tech

Academic Session: 2023-24

Year: 2nd Semester: 3rd


Course Name: Material Engineering

Course Code: BME-303

Course Coordinator Name: Dr. Anurag Gupta

CO-PO/PSO/APOM

CO No.	Programme Outcome(PO)												PSO/ APO	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	3	3	3	3	1	3	2					3	2	
CO2	3	3	2	3		3						3		
CO3	3	3		3		3	2					3		
CO4	3	3	3	3		3	2					3		
CO5	3	3	3	3		3	3					3		
POTarget	3	3	2.2	3	0.2	3	1.8					3	0.4	

Faculty Members Teaching the Course	Signature
I. Dr. Anurag Gupta	



Dr. Anurag Gupta
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 Mechanical Engineering

Program Name: B.Tech

Academic Session: 2024-25

Year: II Semester: III

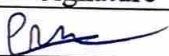
Course Name: Python Programming

Course Code: BCC-302

Course Coordinator Name: Dr. Piyush Pant


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 simple Python programs.	PO1, PO5	2	C
CO2	Apply conditionals and loops in Python programs.	PO1, PO5	3	C
CO3	Apply python data structures and Python functions in programs.	PO1, PO5	3	P
CO4	Apply input/output with files in Python.	PO1, PO5	3	P
CO5	Apply searching, sorting and merging in Python	PO1, PO5	3	P

Faculty Members Teaching the Course	Signature
1. Dr. Piyush Pant	


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 Mechanical Engineering

Program Name: B.Tech

Academic Session: 2024-25

Year: II

Semester: III


Course Name: Python Programming

Course Code: BCC-302

Course Coordinator Name: Dr. Piyush Pant

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	1				3									
CO2	1				3									
CO3	1				3									
CO4	1				3									
CO5	1				3									
PO Target	1				3									

Faculty Members Teaching the Course	Signature
1. Dr. Piyush Pant	



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 Mechanical Engineering

Program Name: B.Tech

Academic Session: 2024-25

Year: 2

Semester: 3



Course Name: Fluid Mechanics lab

Course Code: BME351

Course Coordinator Name: SONENDRA

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 the concept of momentum conservation to determine Impact of jet	PO1,PO2,PO3.PO4, PO11, PO12	3	C
CO2	Analyse different types of notches and critical Reynolds number.	PO1,PO2,PO3.PO4, PO11, PO12.PSO2	4	F
CO3	Apply concept of Bernoulli's theorem to determine discharge through venturimeter, and orifice meter.	PO1,PO2,PO3.PO4, PO11, PO12,PSO1	3	C
CO4	Apply the concept of stable equilibrium of floating bodies	PO1,PO2,PO3.PO4, PO11, PO12,PSO2	3	C
CO5	Analyze Friction factor for pipes, major and minor losses in pipes.	PO1,PO2,PO3.PO4, PO11, PO12,PSO1	4	C

Faculty Members Teaching the Course	Signature
1. Sonendra	
2. Piyush Pant	


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 Mechanical Engineering

Program Name: B.Tech

Academic Session: 2024-25

Year: 2

Semester: 3

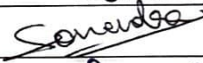

Course Name: Fluid Mechanics lab

Course Code: BME 351

Course Coordinator Name: Sonendra

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	1	1							1	1		
CO2	2	2	1	1							1	1		1
CO3	2	2	1	1							1	1	2	
CO4	2	2	1	1							1	1		1
CO5	2	2	1	1							1	1	2	
PO Target	2	2	1	1							1	1	0.8	0.4

Faculty Members Teaching the Course	Signature
1. Sonendra	
2. Piyush Pant	


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 Mechanical Engineering

Program Name: B.Tech

Academic Session: 2024-25

Year: II

Semester: III

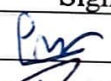

Course Name: Material testing Lab

Course Code: BME-352

Course Coordinator Name: Dr. Piyush Pant


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	Analyze the mechanical properties of materials on universal testing machine.	PO1, PO2, PO4, PO12, PSO2	4	C
CO2	Analyze material hardness along with the effect of different processes on hardness.	PO1, PO2, PO4, PO12, PSO2	4	C
CO3	Analyze the toughness of material by Izod and Charpy test.	PO1, PO2, PO4, PO12, PSO2	4	P
CO4	Analyze the effect of heat treatment.	PO1, PO2, PO4, PO12, PSO2	4	C
CO5	Analyze the modulus of rigidity through torsion test and fatigue failure of the material using fatigue test.	PO1, PO2, PO4, PO12, PSO2	4	P

Faculty Members Teaching the Course	Signature
1. Dr. Piyush Pant	
2. Mr. Ranjeet 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)

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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 are Condition and Criteria.

KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical Engineering

Program Name: B.Tech

Academic Session: 2024-25

Year: II Semester: III

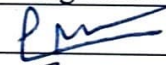

Course Name: Material testing Lab

Course Code: BME-352

Course Coordinator Name: Dr. Piyush Pant

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	3	2		1								1		2
CO2	3	2		1								1		2
CO3	3	2		1								1		2
CO4	3	2		1								1		2
CO5	3	2		1								1		2
PO Target	3	2		1								1		2

Faculty Members Teaching the Course	Signature
1. Dr. Piyush Pant	
2. Mr. Ranjeet 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 Mechanical Engineering


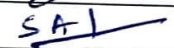
Program Name: B-Tech
Course Name: CAMD-I Lab

Academic Session: 2024-25
Course Code: BME-353

Year: II Semester: 3
Course Coordinator Name: Ranjeet Kumar


Course Outcomes


CO No.	Statement of Course Outcome	Relevant POs/PSOs	Bloom's Level (BL)	Knowledge Category (P/C)
CO1	Understand and apply 2D software to develop a part model.	PO1, PO5, PSO-1	2	C
CO2	Understand the principles of temporary and permanent fasteners.	PO1, PO2, PSO-1, PSO-2	2	C
CO3	Understand the need for free-hand sketching, and create sketches of foundation bolts, etc.	PO2, PO3, PSO-1	3	C
CO4	Create assembly drawings of simple machine elements like rigid or flexible couplings.	PO3, PO5, PO9, PSO-1	3	C
CO5	Create 2D drawings and assemblies of various machine components using CAD software.	PO1, PO5, PO9, PSO-1	3	C

Faculty Members Teaching the Course	Signature
1. Ranjeet Kumar	
2. Sachine Rathore	


Signature of Course Coordinator


Assoc./ Asst. Head DOC


Signature of Addl. HoD


Signature of HoD

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

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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 are Condition and Criteria.

KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical Engineering

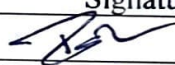
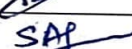
Program Name: B-Tech
Course Name: CAMD-I LAB

Academic Session: 2024-25
Course Code: BME-353

Year: 2
Semester: 3
Course Coordinator Name: Ranjeet Kumar


CO - PO/PSO/APO Matrix

CO No.	Programme Outcome (PO)												PSO/ APO	
	1	2	3	4	5	6	7	8	9	10	11	12	PSO-1	PSO-2
CO1	3				3								3	
CO2	3	2											3	2
CO3		3	2										2	
CO4			3		3				2				3	
CO5	3				3				2				3	
PO Target	3.0	2.5	2.5		3.0				2.0				2.8	2.0

Faculty Members Teaching the Course	Signature
1. Mr. Ranjeet Kumar	
2. Dr. Sachine Rathore	


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.
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KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical Engineering

Program Name: B.Tech

Academic Session: 2024-25

Year: II

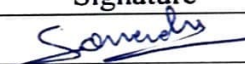
Semester: III

Course Name: Mini Project or Internship Assessment Course Code: BCC 351

Course Coordinator Name: Mr. Sonendra

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 technical knowledge to the students to cope with industrial environment, which can not be simulated in the classroom hence creating competent professionals in the Industry.	PO8, PO9, PO10, PO11 & PO12	3	F, C
CO2	Understand possible opportunities to learn, understand, and sharpen the real-time technical /managerial skills required on the job	PO8 , PO9, PO10, PO11 & PO12	2	F, C
CO3	Apply the current technological developments relevant to the subjectarea of training	PO8, PO9, PO10, PO11 & PO12	3	F, C
CO4	Apply the experience gained from the industrial internship in the discussion held in the classrooms	PO8 , PO9, PO10, PO11 & PO12	3	F, C
CO5	Create conditions conducive to the quest for knowledge and its applicability on the job	PO8 , PO9, PO10, PO11 & PO12	6	F, C

Faculty Members Teaching the Course	Signature
1. Mr. Sonendra	



Signature of Course Coordinator



Assoc./ Asst. Head DOC



Signature of Addl. HoD



Signature of HoD

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

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KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical Engineering

Program Name: B.Tech

Academic Session: 2024-25

Year: II

Semester: III

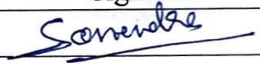
Course Name: Mini Project or Internship Assessment

Course Code: BCC351

Course Coordinator Name: Mr. Sonendra

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	-	-	-	-	-	-	-	1	1	2	2	3	-	-
CO2	-	-	-	-	-	-	-	1	1	2	2	3	-	-
CO3	-	-	-	-	-	-	-	1	1	2	2	3	-	-
CO4	-	-	-	-	-	-	-	1	1	2	2	3	-	-
CO5	-	-	-	-	-	-	-	1	1	2	2	3	-	-
PO Target						-	-	1	1	2	2	3		

Faculty Members Teaching the Course	Signature
Mr. Sonendra	



Signature of Course Coordinator



Assoc./ Asst. Head DOC



Signature of Addl. HoD

Signature of HoD

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

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KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical Engineering

Program Name: B.Tech

Academic Session: 2024-25

Year: III

Semester: V

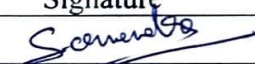
Course Name: Heat and mass transfer

Course Code: BME501

Course Coordinator Name: Mr. Sonendra

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 the basic laws and mechanism of different mode of heat transfer and differential governing equations for conduction.	PO1, PO2 & PO3, PO4, PO5	2	F, C
CO2	Analyze rate of heat transfer through Fins and understand the transient heat conduction.	PO1, PO2 & PO3, PO4, PO5, PO6, PO7. PSO1	4	F, C
CO3	Analyse heat transfer through convection for different type of surface and also understand the difference between natural and forced convection.	PO1, PO2 & PO3, PO4, PO5, PO6, PO7. PSO1	4	F, C
CO4	Apply the basic laws and principles to determine rate of heat transfer through radiations.	PO1, PO2 & PO3, PO4, PO5, PO6, PO7. PSO1	3	F, C
CO5	Analyse the performance of heat exchangers (parallel and counter flow) and understand the phenomenon of condensation, boiling, fundamentals of mass transfer.	PO1, PO2 & PO3, PO4, PO5, PO6, PO7. PSO1	4	F, C

Faculty Members Teaching the Course	Signature
1. Mr. Sonendra	


Signature of Course Coordinator


Assoc./ Asst. Head DOC


Signature of Addl. HoD


Signature of HoD

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KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical Engineering

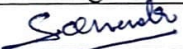
Program Name: B.Tech
Course Name: HMT

Academic Session: 2024-25
Course Code: BME501

Year: III Semester: V
Course Coordinator Name: Mr. Sonendra

CO-PO/PSO/APOMatrix

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	2	1									
CO2	2	2	1	2	2	1	1						3	
CO3	2	2	2	3	2	1	1						3	
CO4	2	2	2	3	2	1	1						3	
CO5	2	2	2	3	2	1	1						3	
PO Target	2	2	2.2	2.6	1.8	0.8	0.8						2.4	

Faculty Members Teaching the Course	Signature
1. Mr. Sonendra	


Signature of Course Coordinator


Assoc./ Asst. Head DOC


Signature of Addl. HoD


Signature of HoD

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KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical Engineering

Program Name: B.Tech

Academic Session: 2024-25

Year: 3rd

Semester: 5th

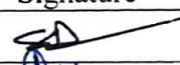
Course Name: Machine Design

Course Code: BME502

Course Coordinator Name: Dr. Sachin Rathore

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 machine components against static and fatigue loading	PO1, PO2,PO3,PO4,PO5, PSO1, PSO2	6	2
CO2	Design the riveted joint, welded joint and shafts.	PO1, PO2,PO3,PO4,PO5, PSO1, PSO2	6	2
CO3	Design the sliding and rolling contact bearing	PO1, PO2,PO3,PO4,PO5, PSO1, PSO2	6	2
CO4	Design the spur and helical gear.	PO1, PO2,PO3,PO4,PO5, PSO1, PSO2	6	2
CO5	Design of clutch and engine cylinder and piston.	PO1, PO2,PO3,PO4,PO5, PSO1, PSO2	6	2

Faculty Members Teaching the Course	Signature
1. Sachin Rathore	

 Signature of Course Coordinator

 Assoc./ Asst. Head DOC

 Signature of Addl. HoD

 Signature of HoD

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KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical Engineering

Program Name: B.Tech

Academic Session: 2024-25

Year: 3rd

Semester: 5th


Course Name: Machine Design

Course Code: BME-502

Course Coordinator Name: Dr. Sachin Rathore

CO - PO/PSO/APO Matrix

CO No.	Program Outcome (PO)												PSO/ APO	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	3	2	3	2	2								3	
CO2	3	2	3	2	2								3	
CO3	3	2	3	2	2								3	
CO4	3	2	3	2	2								3	2
CO5	3	2	3	2	2								3	3
PO Target	3	2	3	2	2								3	2.5

Faculty Members Teaching the Course	Signature
1. Sachin Rathore	



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 Mechanical Engineering

Program Name: B.Tech

Academic Session: 2024-25

Year: III Semester: V

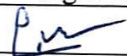
Course Name: Industrial Engineering

Course Code: BME-503

Course Coordinator Name: Dr. Piyush Pant


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	Analyze the concept of production system, productivity, facility and process planning in various industries.	PO11, PO12	4	C
CO2	Apply the various forecasting and project management techniques.	PO1, PO2, PO4, PO11, PO12	3	C
CO3	Apply the concept of break even analysis, inventory control and resource utilization using queuing theory.	PO1, PO2, PO4, PO11, PO12	3	P
CO4	Apply principles of work study and ergonomics for design of work systems.	PO11, PO12	3	P
CO5	Formulate the mathematical models for optimal solution of industrial problems using linear programming approach.	PO1, PO2, PO3, PO4, PO11, PO12	6	P

Faculty Members Teaching the Course	Signature
1. Dr. Piyush Pant	


Signature of Course Coordinator


Assoc./ Asst. Head DOC


Signature of Addl. HoD


Signature of HoD

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

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KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical Engineering

Program Name: B.Tech

Academic Session: 2024-25

Year: III Semester: V

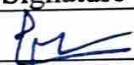
Course Name: Industrial Engineering

Course Code: BME-503

Course Coordinator Name: Dr. Piyush Pant

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											1	3		
CO2	3	3		2							3	3		
CO3	3	3		2							3	3		
CO4											3	3		
CO5	3	3	2	3							3	3		
PO Target	3	3	2	2.33							2.6	3		

Faculty Members Teaching the Course	Signature
1. Dr. Piyush Pant	


Signature of Course Coordinator


Assoc./ Asst. Head DOC


Signature of Addl. HoD


Signature of HoD

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KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical Engineering

Program Name: B.Tech

Academic Session: 2024-25

Year: III

Semester: V


Course Name: Constitution Of India, Law & Engineering

Course Code: BNC-501

Course Coordinator Name: Dr. Piyush Pant


Course Outcomes


After completion of the course, the student will be able to				
CO No.	Statement of Course Outcome	Relevant POs/ PSOs/ APOs	Revised Bloom's Level (BL)	Knowledge Category (KC)
CO1	Understand the basic features and modalities about the Indian constitution.	PO3, PO6, PO7, PO8, PO9, PO10, PO12	2	C
CO2	Analyze the functioning of Indian parliamentary system at the center and state level.	PO3, PO6, PO7, PO8, PO9, PO10, PO12	4	F
CO3	Understand different aspects of the Indian Legal System and its related bodies.	PO3, PO6, PO7, PO8, PO9, PO10, PO12	2	C
CO4	Analyze Intellectual Property Laws and Regulation to Information.	PO3, PO6, PO7, PO8, PO9, PO10, PO12	4	C
CO5	Analyze role of engineers with different organizations and governance models	PO3, PO6, PO7, PO8, PO9, PO10, PO12	4	F

Faculty Members Teaching the Course	Signature
1. Dr. Piyush Pant	


Signature of Course Coordinator


Assoc. Asst. Head DOC


Signature of Addl. HoD


Signature of HoD

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

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KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical Engineering

Program Name: B.Tech

Academic Session: 2024-25

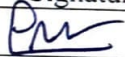
Year: III

Semester: V

Course Name: Constitution Of India, Law & Engineering Course Code: BNC-501 Course Coordinator Name: Dr. Piyush Pant

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			1			2	2	2	2	1		1		
CO2			1			2	2	2	2	1		1		
CO3			1			2	2	2	2	1		1		
CO4			1			2	2	2	2	1		1		
CO5			1			2	2	2	2	1		1		
PO Target			1			2	2	2	2	1		1		

Faculty Members Teaching the Course	Signature
1. Dr. Piyush Pant	


Signature of Course Coordinator


Assoc./ Asst. Head DOC


Signature of Addl. HoD


Signature of HoD

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Department of Mechanical Engineering

Program Name: B.Tech

Academic Session: 2024-25

Year: III

Semester: V

Course Name: Advance Manufacturing Processes

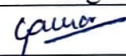
Course Code:

BME 051

Course Coordinator Name: Dr. Gaurav Sharma

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 the concept of various non-conventional machining processes.	PO1, PO2, PO3, PO7, PO12, PSO2	2	C
CO2	Understand the advanced metal casting processes.	PO1, PO2, PO3, PO7, PO12, PSO2	2	C
CO3	Apply the knowledge of various advance welding processes and their thermodynamic and metallurgical aspects.	PO1, PO2, PO3, PO7, PO12, PSO2	3	C
CO4	Understand the advanced metal forming processes.	PO1, PO2, PO3, PO7, PO12, PSO2	2	C
CO5	Understand the basic concepts of additive manufacturing processes.	PO1, PO2, PO7, PO12, PSO2	2	C

Faculty Members Teaching the Course	Signature
Dr. Gaurav Sharma	



Signature of Course Coordinator



Assoc./ Asst. Head DOC



Signature of Addl. HoD



Signature of HoD

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

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KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical Engineering

Program Name: B.Tech

Academic Session: 2024-25

Year: III

Semester: V

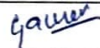
Course Name: Advance Manufacturing Processes

Course Code: BME 051

Course Coordinator Name: Dr. Gaurav Sharma

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				2					3		3
CO2	2	2	2				2					3		3
CO3	2	2	2				2					3		3
CO4	2	2	2				2					3		3
CO5	2	2					2					3		3
PO Target	2	2	2				2					3		3

Faculty Members Teaching the Course	Signature
Dr Gaurav Sharma	



Signature of Course Coordinator



Assoc./ Asst. Head DOC



Signature of Addl. HoD



Signature of HoD

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

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- ❖ If there is no correlation, then put a “-” (dash).

KIET Group of Institutions, Delhi – NCR, Ghaziabad
Department of Mechanical Engineering

Program Name: B. Tech.

Academic Session: 2024-25

Year: 3 Semester: V

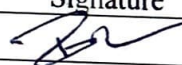
Course Name: Mechatronic Systems

Course Code: BME 054

Course Coordinator Name: Mr. Ranjeet Kumar

Course Outcomes (COs)

CO No.	Statement of Course Outcome	Relevant POs/PSOs	Bloom's Level (BL)	Knowledge Category (P/C)
CO1	Identify key elements of mechatronic and its representation by block diagram.	PO1, PO2, PO3, PSO-1, PSO-2	1	C
CO2	Understand the concept of sensors and use of interfacing systems.	PO2, PO5, PO12, PSO-1, PSO-2	2	C
CO3	Understand the concept and applications of different actuators.	PO1, PO2, PO3, PO5, PSO-1, PSO-2	2	C
CO4	Illustrate various applications of mechatronic systems.	PO3, PO7, PO12, PSO-1	3	C
CO5	Develop PLC ladder programming and implementation in real-life problems.	PO5, PO9, PO11, PO12, PSO-1	4	P

Faculty Members Teaching the Course	Signature
Ranjeet Kumar	


Signature of Course Coordinator


Assoc./ Asst. Head DOC


Signature of Addl. HoD


Signature of Dean

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 Mechanical Engineering

Program Name: B. Tech.

Academic Session: 2024-25

Year: 3 Semester: V


Course Name: Mechatronic Systems

Course Code: BME 054

Course Coordinator Name: Mr. Ranjeet Kumar

CO - PO/PSO/APO Matrix

CO No.	Programme Outcome (PO)												PSO/ APO	
	1	2	3	4	5	6	7	8	9	10	11	12	PSO-1	PSO-2
CO1	3	2	2										3	2
CO2		3			2							3	2	3
CO3	2	2	2		2								3	3
CO4			3				2					3	3	
CO5					3				3		3	2	3	
PO Target	2.5	2.3	2.3		2.3		2.0		3.0		3.0	2.7	2.8	2.7

Faculty Members Teaching the Course	Signature
Ranjeet Kumar	


Signature of Course Coordinator


Assoc./ Asst. Head DOC


Signature of Addl. HoD


Signature of Dean

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

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KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical Engineering

Program Name: B. Tech.

Academic Session: 2024-25

Year: 3rd

Semester: V

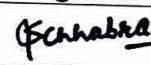
Course Name: Automobile Engines & Combustion

Course Code: BAU051

Course Coordinator Name: Dr. Sandeep Chhabra

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 the concepts of thermodynamics to air standard cycle in IC Engines & examine the performance parameters and testing of IC engine.	PO-1, PO-2, PO-3, PO-12, PSO-2	3	F/C/P
CO2	Understand the phenomena of combustion and its application in SI and CI engines & understand the role and working of ignition systems of IC engine.	PO-1, PO-2, PO-3, PO-12, PSO-2	2	C/P
CO3	Understand the concept of carburetion, fuel injection for SI Engine and defend the role and working of turbocharger in IC Engines.	PO-1, PO-2, PO-3, PO-12, PSO-2	2	C/P
CO4	Understand the phenomena of Flames Propagation & Stoichiometry relations.	PO-1, PO-2, PO-3, PO-12, PSO-2	2	C/P
CO5	Understand the effect of engine emission on the environment and human health and methods of reducing it and also express the significance of different fuels and lubrication systems.	PO-1, PO-2, PO-3, PO-6, PO-7, PO-12, PSO-2	2	F/C/P

Faculty Members Teaching the Course	Signature
Dr. Sandeep Chhabra	



Signature of Course Coordinator



Assoc./ Asst. Head DOC



Signature of Addl. HoD



Signature of HoD

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

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KIET Group of Institutions, Delhi – NCK, Ghaziabad

Department of Mechanical Engineering

Program Name: B. Tech.

Academic Session: 2024-25

Year: 3rd

Semester: V


Course Name: Automobile Engines & Combustion

Course Code: BAU051

Course Coordinator Name: Dr. Sandeep Chhabra

CO-PO/PSO/APO Matrix

CO No.	Program Outcomes (POs)												PSOs/ APOs	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	2	2	2									1		3
CO2	2	2	2									1		3
CO3	2	2	2									1		3
CO4	2	2	2									1		3
CO5	2	2	2			2	3				2	1		3
PO Targets	2	2	2			2	3				2	1		3

Faculty Members Teaching the Course	Signature
Dr. Sandeep Chhabra	



Signature of Course Coordinator



Assoc./ Asst. Head DOC



Signature of Addl. HoD



Signature of HoD

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KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical engineering

Program Name: B.Tech

Academic Session: 2024-25

Year: III

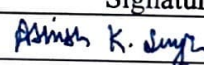
Semester: V

Course Name: Automotive Chassis and suspension Course Code: BAU 052

Course Coordinator Name: Ashish Kumar Singh

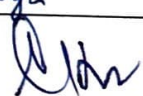
Course Outcomes

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 different types of Automotive Chassis and Frame used in automobiles	PO-1, PO-2, PO-9, PSO-2	2	C
CO2	Analyze transmission and driveline components used in automobile	PO-1, PO-2, , PO-7, PSO-2	4	C
CO3	Analyze the constructional features of braking and suspension systems	PO-1, PO-2, PO-4, PSO-2	4	F,C
CO4	Understand axles, steering system , wheels and tyres in automotive applications	PO-1, PO-2, PO-9, PSO-2	2	F,C
CO5	Understand the recent advancements in chassis components of automobile and concepts of advanced braking and steering system and to design the same for automotive application	PO-1, PO-2, PO-4, PSO-2	2	F,C

Faculty Members Teaching the Course	Signature
I.ASHISH KUMAR SINGH	


Signature of Course Coordinator


Assoc./ Asst. Head DOC


Signature of Addl. HoD


Signature of HoD

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

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KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical Engineering

Program Name: B.tech

Academic Session: 2024-25

Year: III

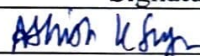
Semester: V

Course Name: Automotive Chassis and Suspension Course Code: BAU 052

Course Coordinator Name: Ashish Kumar Singh

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	3	2							2					3
CO2	3	2					1							3
CO3	3	2		2										3
CO4	3	2							2					3
CO5	3	2		1										3
PO Target	3	2		1.5			1		0.8					3

Faculty Members Teaching the Course	Signature
1.ASHISH KUMAR SINGH	


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 are Condition and Criteria.

KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical Engineering

Program Name: B. Tech

Academic Session: 2024-25

Year: III

Semester: V

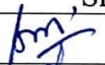

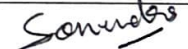
Course Name: Heat and mass transfer lab

Course Code: BME 551

Course Coordinator Name: Dr. Gaurav Sharma

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	Analyze heat transfer by conduction, thermal conductivity of material experimentally.	PO2 & PO3, PO7	4	F, C
CO2	Analyze heat transfer by convection, heat transfer coefficient for fin , pool boiling, natural convection and forced convection experimentally	PO2, PO3, PO4 ,PO5, PO7 & PSO1, PSO2	4	F, C
CO3	Analyze heat transfer by radiation and emissivity of a surface.	PO2, PO3, PO4 ,PO5, PO7, PSO1, PSO2	4	F, C
CO4	Analyze mass transfer by diffusion.	PO2, PO3, PO4 ,PO5, PO7 & PSO2	4	F, C
CO5	Design heat exchanger and solar collector (parallel flow/ counter flow/shell and tube type)	PO2, PO3, PO4 ,PO5, PO7 & PSO1, PSO2	5	F, C

Faculty Members Teaching the Course	Signature
1. Dr. Sandeep Chhabra	
2. Dr. Gaurav Sharma	
3. Mr. Sonendra Sharma	



Signature of Course Coordinator



Assoc./ Asst. Head DOC



Signature of Addl. HoD



Signature of HoD

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

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Department of Mechanical Engineering

Program Name: B. Tech

Academic Session: 2024-25

Year: III

Semester: V


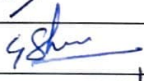
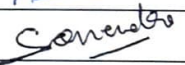
Course Name: Heat and mass transfer lab

Course Code: BME 551

Course Coordinator Name: Dr. Gaurav Sharma

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				1	-	-	-	-	-	-	-
CO2		2	2	2	2		1	-	-	-	-	-	3	2
CO3		2	2	2	2		1	-	-	-	-	-	3	1
CO4		2	2	2	2		1	-	-	-	-	-		1
CO5		2	2	2	2		1	-	-	-	-	-	3	1
PO Target		2	2	1.6	1.6		1						1.8	1

Faculty Members Teaching the Course	Signature
4. Dr. Sandeep Chhabra	
5. Dr. Gaurav Sharma	
6. Mr. Sonendra Sharma	



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 Mechanical Engineering

Program Name: B. Tech

Academic Session: 2024-25

Year: 3rd

Semester: 5th

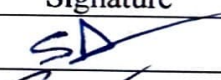

Course Name: Machine Design Lab

Course Code: BME 552

Course Coordinator Name: Dr. Sachin Rathore

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 machine components against static and fatigue loading	PO1, PO2, PO3, PO4, PO5, PSO1,	4	P
CO2	Design the riveted joint, welded joint and shafts.	PO1, PO2, PO3, PO4, PO5, PSO1,	4	P
CO3	Design the sliding and rolling contact bearing	PO1, PO2, PO3, PO4, PO5, PSO1,	4	P
CO4	Design the spur and helical gear.	PO1, PO2, PO3, PO4, PO5, PSO1, PSO2	4	P
CO5	Design of clutch and engine cylinder and piston.	PO1, PO2, PO3, PO4, PO5, PSO1, PSO2	4	P

Faculty Members Teaching the Course	Signature
1. Dr. Sachin Rathore	
2. Mr. Ranjeet 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)

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KIET Group of Institutions, Delhi – NCR, Ghaziabad

Program Name: B.Tech
Course Name: Machine Design Lab
Course Coordinator Name: Dr. Sachin Rathore



Department of Mechanical Engineering

Academic Session: 2024-25

Year: 3rd **Semester: 5th**
Course Code: BME 552

CO - PO/PSO/APO Matrix

CO No.	Program Outcome (PO)												PSO/ APO	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	3	2	3	2	2								3	
CO2	3	2	3	2	2								3	
CO3	3	2	3	2	2								3	
CO4	3	2	3	2	2								3	2
CO5	3	2	3	2	2								3	3
PO Target	3	2	3	2	2								3	2.5

Faculty Members Teaching the Course	Signature
1. Dr. Sachin Rathore	
2. Mr. Ranjeet 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.
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KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical Engineering

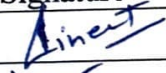

Program Name: B. Tech
Course Name: IOT LAB
Course Outcomes

Academic Session: 2023-24
Course Code: BME 553

Year: 3rd yr.
Course Coordinator Name: Vineet Kumar Vashishtha


Semester: Vth

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 the concept of Internet of Things and its hardware and software components.	PO1, PO2, PO4, PO9, PO11, PO12	2	F, C
CO2	Apply interfacing of various sensors with Arduino/Raspberry Pi.	PO1, PO2, PO4, PO5, PO9, PO11, PO12	3	F, C, P
CO3	Demonstrate the ability to transmit data wirelessly between different devices.	PO1, PO2, PO4, PO5, PO9, PO11, PO12	3	F, C, P
CO4	Design prototype of IoT based smart system.	PO1, PO2, PO3, PO4, PO5, PO9, PO11, PO12	6	F, C, P, M
CO5	Develop IoT based projects for real life problem.	PO1, PO2, PO3, PO4, PO5, PO9, PO11, PO12	6	F, C, P, M

Faculty Members Teaching the Course	Signature
1. Vineet Kumar Vashishtha	
2. Dr. Piyush Pant	


Signature of Course Coordinator


Assoc./ Asst. Head DOC


Signature of Addl. HoD


Signature of HoD

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

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Department of Mechanical Engineering

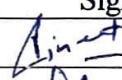

Program Name: B. Tech
Course Name: IOT LAB

Academic Session: 2023-24
Course Code: BME 553

Year: 3rd yr. **Semester: Vth**
Course Coordinator Name: Vineet Kumar Vashishtha


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	-	-	-	-	2	-	2	2	-	-
CO2	3	3	-	3	3	-	-	-	3	-	2	2	-	-
CO3	3	3	-	3	3	-	-	-	3	-	2	2	-	-
CO4	3	3	3	3	3	-	-	-	3	-	2	2	-	-
CO5	3	3	3	3	3	-	-	-	3	-	2	2	-	-
POTarget	2.80	2.80	3.00	2.80	3	-	-	-	2.80	-	2	2	-	-

Faculty Members Teaching the Course	Signature
1. Vineet Kumar Vashishtha	
2. Dr. Piyush Pant	


Signature of Course Coordinator


Assoc./ Asst. Head DOC


Signature of Addl. HoD


Signature of HoD

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KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical Engineering

Program Name: B.Tech

Academic Session: 2024-25

Year: III

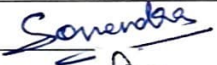
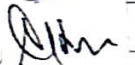
Semester: V

Course Name: Mini Project or Internship Assessment Course Code: BME 554

Course Coordinator Name: Mr. Sonendra

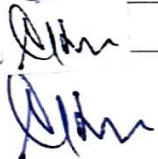
Course Outcomes

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 technical knowledge to the students to cope with industrial environment, which can not be simulated in the classroom hence creating competent professionals in the Industry.	PO8, PO9, PO10, PO11 & PO12	3	F, C
CO2	Understand possible opportunities to learn, understand, and sharpen the real-time technical /managerial skills required on the job	PO8 , PO9, PO10, PO11 & PO12	2	F, C
CO3	Apply the current technological developments relevant to the subjectarea of training	PO8, PO9, PO10, PO11 & PO12	3	F, C
CO4	Apply the experience gained from the industrial internship in the discussion held in the classrooms	PO8 , PO9, PO10, PO11 & PO12	3	F, C
CO5	Create conditions conducive to the quest for knowledge and its applicability on the job	PO8 , PO9, PO10, PO11 & PO12	6	F, C

Faculty Members Teaching the Course	Signature
1. Mr. Sonendra	
2. Dr. Ajay Singh Verma	


Signature of Course Coordinator


Assoc./ Asst. Head DOC


Signature of Addl. HoD


Signature of HoD

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KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical Engineering

Program Name: B.Tech

Academic Session: 2024-25

Year: III

Semester: V

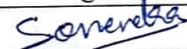

Course Name: Mini Project or Internship Assessment

Course Code: BME554

Course Coordinator Name: Mr. Sonendra

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	-	-	-	-	-	-	-	1	1	2	2	3	-	-
CO2	-	-	-	-	-	-	-	1	1	2	2	3	-	-
CO3	-	-	-	-	-	-	-	1	1	2	2	3	-	-
CO4	-	-	-	-	-	-	-	1	1	2	2	3	-	-
CO5	-	-	-	-	-	-	-	1	1	2	2	3	-	-
PO Target						-	-	1	1	2	2	3		

Faculty Members Teaching the Course	Signature
1. Mr. Sonendra	
2. Dr. Ajay Singh Verma	

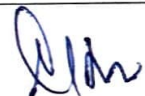


Signature of Course Coordinator



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 Mechanical Engineering

Program Name: B. Tech.

Academic Session: 2024-25

Year: 4

Semester: 7


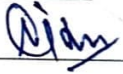
Course Name: Project management & Entrepreneurship

Course Code: KHU-702

Course Coordinator Name: Dr. Ajay Singh Verma

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 the basic concept of Entrepreneurship, & EDP	PO8, PO11, PO12	3	C
CO2	Create Entrepreneurial Idea and Identify Business Opportunities	PO5, PO6, PO8, PO11, PO12	6	C,P
CO3	Apply the principles of the Project management; project life-cycle	PO5, PO6, PO8, PO9, PO11, PO12	3	C,P
CO4	Estimate project cost related to capital budgeting process and projected balance sheet	PO4, PO5, PO8, PO10, PO11, PO12	3	C,P
CO5	Understand the perspectives of Social Entrepreneurship, marketing management, & Risk Management	PO5, PO6, PO7, PO8, PO11, PO12	2	C

Faculty Members Teaching the Course	Signature
1. Dr. K L A Khan	
2. Dr. Ajay Singh Verma	



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 Mechanical Engineering

Program Name: B. Tech.

Academic Session: 2024-25

Year:4

Semester: 7



Course Name: Project management & Entrepreneurship

Course Code: KHU-702

Course Coordinator Name: Dr. Ajay Singh Verma

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			3	2		
CO2					3	2		2			3	2		
CO3					2	2		2	2		3	2		
CO4				2	3			2		3	3	3		
CO5					2	3	3	2			3	2		
PO Target				2	2.5	2.3	3	2	2	3	3	2.2		

Faculty Members Teaching the Course	Signature
1. Dr. K L A Khan	
2. Dr. Ajay Singh Verma	



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 Mechanical Engineering

Program Name: B. Tech. (ME)

Academic Session: 2024-25

Year: 4th

Semester: 7th

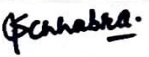
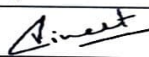
Course Name: Renewable Energy Resources

Course Code: KOE074

Course Coordinator Name: Dr. Sandeep Chhabra

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 the significance of various non-conventional energy resources, their availability and limitations, working of solar cell, its material, advantages and limitations	PO-1, PO-2, PO-3, PO-7, PO-9, PO-12	2	F/C
CO2	Apply the knowledge to select suitable solar thermal collectors to meet desired need within realistic constraints such as economic, environmental, and sustainability	PO-1, PO-2, PO-3, PO-7, PO-9, PO-12	3	F/C/P
CO3	Understand the system and working of non conventional energy resources such as Magneto-hydrodynamics (MHD) generator, geothermal and fuel cell	PO-1, PO-2, PO-3, PO-7, PO-9, PO-12	2	F/C/P
CO4	Analyze the optimum power generation through wind power plant and understand the system and working of thermo-electric and thermo-ionic systems	PO-1, PO-2, PO-3, PO-7, PO-9, PO-12	4	F/C/P
CO5	Understand the basic systems of Ocean thermal energy conversion, wave energy plant, biomass energy system to meet the energy shortage requirement	PO-1, PO-2, PO-3, PO-7, PO-9, PO-12	2	F/C/P

Faculty Members Teaching the Course	Signature
1. Dr. Sandeep Chhabra	
2. Mr. Vineet Vashishtha	



Signature of Course Coordinator



Assoc./ Asst. Head DOC



Signature of Addl. HoD



Signature of HoD

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

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KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical Engineering

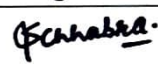
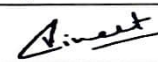
Program Name: B. Tech. (ME)
Course Name: Renewable Energy Resources

Academic Session: 2024-25
Course Code: KOE074

Year: 4th **Semester: 7th**
Course Coordinator Name: Dr. Sandeep Chhabra

CO-PO/PSO/APO Matrix


CO No.	Program Outcomes (POs)												PSOs/ APOs	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	1	1	1				2		1			2		
CO2	2	1	2				2		1			2		
CO3	1	1	1				2		1			2		
CO4	3	2	2				2		1			2		
CO5	1	1	1				2		1			2		
PO Targets	1.6	1.2	1.4				2		1			2		

Faculty Members Teaching the Course	Signature
1. Dr. Sandeep Chhabra	
2. Mr. Vineet Vashishtha	


Signature of Course Coordinator


Assoc./ Asst. Head DOC


Signature of Addl. HoD


Signature of HoD

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Department of Mechanical Engineering

Program Name: B.Tech

Academic Session: 2024-25

Year: IV

Semester: VII

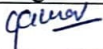
Course Name: Additive Manufacturing

Course Code: KME 071

Course Coordinator Name: Dr. Gaurav Sharma


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 the basics of additive manufacturing/rapid prototyping.	PO1, PO7, PO 9, PO 12	2	C
CO2	Understand the role of additive manufacturing in the design process and the implications for design	PO1, PO7, PO 9, PO 12	2	C,P
CO3	Understand the processes used in additive manufacturing for a range of materials and applications	PO1, PO 5, PO7, PO 9, PO 12	2	C
CO4	Apply the various software tools, processes and techniques that enable advanced/additive manufacturing and personal fabrication	PO1, PO 5, PO7, PO 9, PO 12, PSO1, PSO 2	3	C,P
CO5	Apply knowledge of additive manufacturing for real-life applications	PO1, PO 5, PO7, PO 9, PO 12, PSO1, PSO 2	3	C

Faculty Members Teaching the Course	Signature
1. Dr. Gaurav Sharma	


Signature of Course Coordinator


Assoc./ Asst. Head DOC


Signature of Addl. HoD


Signature of HoD

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

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Department of Mechanical Engineering

Program Name: B.Tech
Course Name: Additive Manufacturing

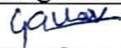
Academic Session: 2024-25
Course Code: KME 071

Year: IV
Course Coordinator Name: Dr. Gaurav Sharma

Semester: VII

CO-PO/PSO/APOMatrix

CO No.	Programme Outcome (PO)												PSO/ APO	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	3						2		1			2		
CO2	3						2		2			2		
CO3	3				2		2		2			2		
CO4	3				2		2		2			2	2	2
CO5	3				2		2		2			2	2	2
PO Target	3				1.2		2		1.8			2	0.8	0.8

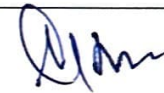
Faculty Members Teaching the Course	Signature
1. Dr Gaurav Sharma	



Signature of Course Coordinator



Assoc./Asst. Head DOC



Signature of Addl. HoD



Signature of HoD

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

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KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical engineering

Program Name: B.Tech

Academic Session: 2024-25

Year: IV

Semester: VII


Course Name: Hybrid Vehicle Propulsion

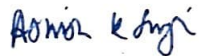
Course Code: KAU 072

Course Coordinator Name: Ashish Kumar Singh

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 the basics of the hybrid electric vehicles and its types	PO-1, PSO-2	2	C
CO2	Understand the types of drivetrains in hybrid electric vehicle	PO-1, PO-2, , PO-7, PSO-2	2	C
CO3	Understand the propulsion units used in hybrid vehicles and their efficiency	PO-1, PO-2, PO-4, PSO-2	2	F,C
CO4	Understand the requirements and devices of energy storage used in hybrid vehicle and the concept of downsizing the IC engine in case of hybrid vehicles	PO-1, PO-2, PO-9, PSO-2	2	F,C
CO5	Understand the principles of energy management and issues related to these strategies	PO-1, PO-2, PO-12, PSO-2	2	F,C

Faculty Members Teaching the Course	Signature
1.ASHISH KUMAR SINGH	




Signature of Course Coordinator


Assoc./ Asst. Head DOC



Signature of Addl. HoD



Signature of HoD

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

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KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical Engineering

Program Name: B.tech

Academic Session: 2024-25

Year: IV

Semester: VII

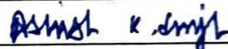
Course Name: Hybrid Vehicle Propulsion

Course Code: KAU 072

Course Coordinator Name: Ashish Kumar Singh

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	3														3
CO2	3	2					1								3
CO3	3	2		2											3
CO4	3	2							2						3
CO5	3	2										3			3
PO Target	3	2		2			1		2			3			3

Faculty Members Teaching the Course	Signature
I.ASHISH KUMAR SINGH	


Signature of Course Coordinator


Assoc./ Asst. Head DOC


Signature of Addl. HoD


Signature of HoD

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KIET Group of Institutions, Delhi – NCR, Ghaziabad
Department of Mechanical Engineering

Program Name: B. Tech.

Academic Session: 2024-25


Year: 4

Semester: VII

Course Name: Mathematical Modeling of Manufacturing Processes Course Code: KME 073 Course Coordinator Name: Mr. Ranjeet Kumar

CO - PO/PSO/APO Matrix

CO No.	Programme Outcome (PO)												PSO/ APO	
	1	2	3	4	5	6	7	8	9	10	11	12	PSO-1	PSO-2
CO1	3	2			2								3	
CO2	3	2			2								3	2
CO3	2		3	3			2						2	
CO4	2				3				3				2	3
CO5	3						2					3	3	
PO Target	2.6	2.0	3.0	3.0	2.3		2.0		3.0			3.0	2.6	2.5

Faculty Members Teaching the Course	Signature
Ranjeet Kumar	


Signature of Course Coordinator


Assoc./ Asst. Head DOC


Signature of Addl. HoD


Signature of Dean

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

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KIET Group of Institutions, Delhi – NCR, Ghaziabad
Department of Mechanical Engineering

Program Name: B. Tech.

Academic Session: 2024-25

Year: 4


Semester: VII

Course Name: Mathematical Modeling of Manufacturing Processes
 Course Coordinator Name: Mr. Ranjeet Kumar

Course Code: KME 073

Course Outcomes (COs)

CO No.	Statement of Course Outcome	Relevant POs/PSOs	Bloom's Level (BL)	Knowledge Category (P/C)
CO1	Understand the fundamentals of manufacturing processes, mathematical models, and their solutions.	PO1, PO2, PO5, PSO-1	2	C
CO2	Understand unconventional and conventional machining, their discrete-time linear, non-linear models, and solutions.	PO1, PO2, PO5, PSO-1, PSO-2	2	C
CO3	Analyze the mechanism of forming and heat transfer in welding.	PO3, PO4, PO7, PSO-2	4	C
CO4	Apply the principles of casting, powder metallurgy, coating, and additive manufacturing.	PO1, PO5, PO9, PSO-1, PSO-2	3	C
CO5	Understand the fundamentals of heat treatment, micro/nano manufacturing, and processing of non-metallic materials.	PO1, PO7, PO12, PSO-1	2	C

Faculty Members Teaching the Course	Signature
Ranjeet Kumar	



Signature of Course Coordinator



Assoc./ Asst. Head DOC



Signature of Addl. HoD



Signature of Dean

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

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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 are Condition and Criteria.

KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical Engineering

Academic Session: 2024-25

Year: 4th

Semester: 7th

Course Code: KME 074

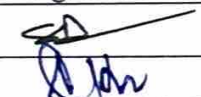
Program Name: B. Tech

Course Name: Machine Learning

Course Coordinator Name: Dr. Sachin Rathore

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 the need of machine learning concepts	PO1, PO 2, PO 4, PO5, PO11	2	F
CO2	Evaluate models generated from data to understand a wide variety of ML Algorithms.	PO1, PO 2, PO 4, PO5, PO11	5	F, P
CO3	Solve prediction-based problems.	PO1, PO 2, PO 4, PO5, PO11	3	F, P
CO4	Analyse machine learning algorithms.	PO1, PO 2, PO 4, PO5, PO11	4	F, P
CO5	Apply the Algorithms to real-world problems.	PO1, PO 2, PO 4, PO5, PO11	3	F

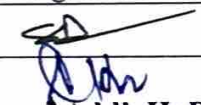
Faculty Members Teaching the Course	Signature
1. Sachin Rathore	



Signature of Course Coordinator



Assoc./ Asst. Head DOC



Signature of Addl. HoD



Signature of HoD

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

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KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical Engineering

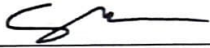
Program Name: B.Tech
 Course Name: Machine Learning
 Course Coordinator Name: Dr. Sachin Rathore

Academic Session: 2024-25

Year: 4th Semester: 7th
 Course Code: KME074

CO - PO/PSO/APO Matrix

CO No.	Program Outcome (PO)												PSO/ APO	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	1	1		1	1						2			
CO2	3	3		2	3						2			
CO3	2	3		2	3						2			
CO4	3	3		2	3						2			
CO5	3	3		2	3						2			
PO Target	2.4	2.6		2.4	2.6						2			

Faculty Members Teaching the Course	Signature
1. Sachin Rathore	



Signature of Course Coordinator



Assoc./ Asst. Head DOC



Signature of Addl. HoD



Signature of HoD

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

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KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical Engineering

Program Name: B. Tech

Academic Session: 2024-25 Year: IV Semester: VII

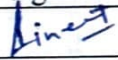
Course Name: Vehicle Body Engineering & safety

Course Code: KAU073

Course Coordinator Name: Mr. Vineet Kumar Vashishtha

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 the classification of the vehicles on the basis of body.	PO-1, PO-2, PO-6, PO-7, PO-8, PO-10, PO-12, PSO-2	2	C
CO2	Understand the concepts of aerodynamics used in designing automobiles.	PO-1, PO-2, PO-6, PO-7, PO-8, PO-10, PO-12, PSO-2	2	C
CO3	Understand the importance of interior and exterior ergonomics while designing the vehicle.	PO-1, PO-2, PO-6, PO-7, PO-8, PO-10, PO-12, PSO-2	2	C
CO4	Understand various sources of noise and methods of noise separation and various safety aspects in a given vehicle.	PO-1, PO-2, PO-6, PO-10, PO-12, PSO-2	2	C
CO5	Apply various aerodynamic forces and moments acting on vehicle, load distribution in vehicle body and stability of vehicle.	PO-1, PO-2, PO-6, PO-9, PO-10, PO-11, PO-12, PSO-2	3	P

Faculty Members Teaching the Course	Signature
1. Mr. Vineet Kumar Vashishtha	


Signature of Course Coordinator


Assoc./ Asst. Head DOC


Signature of Addl. HoD


Signature of HoD

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Condition and Criteria

Department of Mechanical Engineering

Program Name: B. Tech

Academic Session: 2024-25

Year: IV

Semester: VII

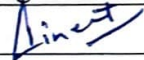
Course Name: Vehicle Body Engineering & safety

Course Code: KAU073

Course Coordinator Name: Mr. Vineet Kumar Vashishtha


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	3	2				2	2	2		2		3		3
CO2	3	1				1	2	2		2		3		3
CO3	3	2				1	2	2		2		3		3
CO4	3	1				2				2		3		3
CO5	3	1				2			2	2	2	3		3
PO Target	3	1.40				1.60			2	2	2	3		3

Faculty Members Teaching the Course	Signature
1. Mr. Vineet Kumar Vashishtha	


Signature of Course Coordinator


Assoc./ Asst. Head DOC


Signature of Addl. HoD


Signature of HoD

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

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Department of Mechanical Engineering

Program Name: B. Tech.

Academic Session: 2024-25

Year: 4th

Semester: VII



Course Name: Measurement and Metrology Lab

Course Code: KME751

Course Coordinator Name: Dr. Sandeep Chhabra

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	Measure linear dimensions (Length, thickness, internal & external dia, depth etc) with the help of Vernier Caliper & Micrometer, angular dimensions with the help of Sine bar & Bevel Protector and rotational speed with the help of Techometer.	PO-1, PO-2, PO-3, PO-12, PSO-2	5	C/P
CO2	Verify the dimensional acceptability of any component using different Limit Gauges with understanding the concepts of Limit, Fit and Tolerance.	PO-1, PO-2, PO-3, PO-12, PSO-2	5	C/P
CO3	Measure the surface roughness value of and specimen.	PO-1, PO-2, PO-3, PO-12, PSO-2	5	C/P
CO4	Measure temperature and pressure using strain gauge based measuring instruments.	PO-1, PO-2, PO-3, PO-12, PSO-2	5	C/P

Faculty Members Teaching the Course	Signature
Dr. Sandeep Chhabra	
Dr. Ajay Singh Verma	
Mr. Ashish Kumar Singh	



Signature of Course Coordinator



Assoc./ Asst. Head DOC



Signature of Addl. HoD



Signature of HoD

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Department of Mechanical Engineering

Program Name: B. Tech.
Course Name: Measurement and Metrology Lab

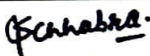

Academic Session: 2024-25
Course Code: KME751

Year: 4th
Course Coordinator Name: Dr. Sandeep Chhabra

Semester: VII

CO-PO/PSO/APO Matrix

CO No.	Program Outcomes (POs)												PSOs/ APOs	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO1	2	2	2									1		3
CO2	2	2	2									1		3
CO3	2	2	2									1		3
CO4	2	2	2									1		3
CO5	2	2	2			2	3				2	1		3
PO Targets	2	2	2			2	3				2	1		3

Faculty Members Teaching the Course	Signature
Dr. Sandeep Chhabra	
Dr. Ajay Singh Verma	
Mr. Ashish Kumar Singh	


Signature of Course Coordinator


Assoc./ Asst. Head DOC


Signature of Addl. HoD


Signature of HoD

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KIET Group of Institutions, Delhi – NCR, Ghaziabad

Department of Mechanical Engineering

Program Name: B.Tech

Academic Session: 2024-25

Year: IV

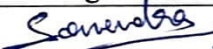
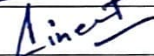
Semester: VII

Course Name: Mini Project or Internship Assessment Course Code: KME752

Course Coordinator Name: Mr. Sonendra

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 technical knowledge to the students to cope with industrial environment, which can not be simulated in the classroom hence creating competent professionals in the Industry.	PO8, PO9, PO10, PO11 & PO12	3	F, C
CO2	Understand possible opportunities to learn, understand, and sharpen the real-time technical /managerial skills required on the job	PO8 , PO9, PO10, PO11 & PO12	2	F, C
CO3	Apply the current technological developments relevant to the subjectarea of training	PO8, PO9, PO10, PO11 & PO12	3	F, C
CO4	Apply the experience gained from the industrial internship in the discussion held in the classrooms	PO8 , PO9, PO10, PO11 & PO12	3	F, C
CO5	Create conditions conducive to the quest for knowledge and its applicability on the job	PO8 , PO9, PO10, PO11 & PO12	6	F, C

Faculty Members Teaching the Course	Signature
1. Mr. Sonendra	
2. Vineet Vashishtha	


Signature of Course Coordinator


Assoc./ Asst. Head DOC


Signature of Addl. HoD


Signature of HoD

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

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- ❖ The statement of COs must be formed considering the 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 Mechanical Engineering

Program Name: B.Tech

Academic Session: 2024-25

Year: IV

Semester: VII

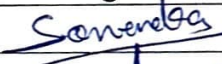
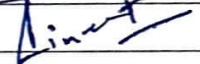
Course Name: Mini Project or Internship Assessment

Course Code: KME752

Course Coordinator Name: Mr. Sonendra


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	-	-	-	-	-	-	-	1	1	2	2	3	-	-
CO2	-	-	-	-	-	-	-	1	1	2	2	3	-	-
CO3	-	-	-	-	-	-	-	1	1	2	2	3	-	-
CO4	-	-	-	-	-	-	-	1	1	2	2	3	-	-
CO5	-	-	-	-	-	-	-	1	1	2	2	3	-	-
POTarget								1	1	2	2	3		

Faculty Members Teaching the Course	Signature
1. Mr. Sonendra	
2. Mr. Vineet Vashishtha	


Signature of Course Coordinator


Assoc./ Asst. Head DOC


Signature of Addl. HoD


Signature of HoD

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Department of Mechanical Engineering

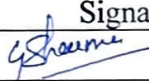

Program Name: B. Tech
Course Name: Project
Course Outcomes

Academic Session: 2024-25
Course Code: KME 753

Year: IV
Course Coordinator Name: Dr. Gaurav Sharma

Semester: VII

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 methods and materials and their selection to carry out experiments.	PO1, PO2, PO3, PO4, PO5, PO9, PO10, PO11, PSO1, PSO2	2	C
CO2	Apply the procedures with a concern for society, environment and ethics.	PO1, PO2, PO3, PO4, PO5, PO9, PO10, PO11, PSO1, PSO2	3	P
CO3	Analyze and discuss the results to draw valid conclusions.	PO1, PO2, PO3, PO4, PO5, PO9, PO10, PO11, PSO1, PSO2	4	P
CO4	Create a report as per recommended format and defend the work.	PO1, PO2, PO3, PO4, PO5, PO9, PO10, PO11, PSO1, PSO2	6	M
CO5	Evaluate the possibility of publishing papers in peer-reviewed journal/conference proceedings.	PO1, PO2, PO3, PO4, PO5, PO9, PO10, PO11, PSO1, PSO2	5	P/M

Faculty Members Teaching the Course	Signature
1. Dr. Gaurav Sharma	
2. Mr. Ashish Kumar Singh	



Signature of Course Coordinator



Assoc./ Asst. Head DOC



Signature of Addl. HoD



Signature of HoD

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Department of Mechanical Engineering

Program Name: B. Tech
Course Name: Project

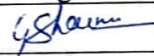
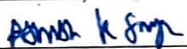
Academic Session: 2024-25
Course Code: KME753

Year: IV
Course Coordinator Name: Dr. Gaurav Sharma

Semester: VII


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	3	3	3	3	3				3	2	3		3	2
CO2	3	3	3	3	3				3	2	3		3	2
CO3	3	3	3	3	3				3	2	3		3	2
CO4	2	2	2	2	2				3	3	2		2	1
CO5	1	1	1	2	2				3	3	2		2	1
PO Target	2.4	2.4	2.4	2.6	2.6				3	2.4	2.6		2.6	1.6

Faculty Members Teaching the Course	Signature
1. Dr. Gaurav Sharma	
2. Mr. Ashish Kumar Singh	


Signature of Course Coordinator


Assoc./ Asst. Head DOC


Signature of Addl. HoD


Signature of HoD

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