KIET GROUP OF INSTITUTIONS, DELHI-NCR, GHAZIABAD
DEPARTMENT OF APPLIED SCIENCES
COs WITH BLOOMS, B. TECH. I YEAR (2020-21)

Course Outcomes		BL
Engineering Physics: (KAS 101T/201T)		
S. No.	Course Outcome/ Unit	
	Student will be able to:	
1	Recall Newton's law of motion as well as explain and predict relativistic mechanics in real world applications, Einstein's postulates and their applicability in different applications.	1
2	Identify Maxwell's equations in free space and non-conducting medium, propertiesof electromagnetic waves and applying the propagation mechanism of communication system through e-m waves.	3
3	Differentiate classical mechanics and quantum mechanics, Summarize the basics of microscopic physics and use it to solve various quantum mechanical problems.	4
4	Recall the concept of interference and diffraction, demonstrate the ability to evaluate wavelength of monochromatic source and white light using Newton's ring experiment & diffraction Grating.	1
5	Compare and categorize the Laser and Fiber with losses, illustrate communication of signal with Optical fiber and application of LASER.	2

Course Outcomes		BL
Engineering Chemistry: (KAS 102T/202T)		
S. No.	Course Outcome/ Unit	
	Student will be able to:	
1	Understands and apply theoretical principles of bonding to analyze/infer molecular structures and properties.	1,2, 3, 4
2	Acumen the fundamental concepts of various spectral techniques for organic compound/ molecular structure analysis.	1,2, 3, 4
3	Understands and apply thermodynamic and electrochemical reactions in perspective of corrosion and Phase Rule.	1, 2, 3, 4
4	Insight knowledge, application and evaluation of water treatment techniques and fuel analysis.	1,2, 3, 4, 5
5	Acquire fundamental knowledge of polymer Chemistry and Organometallic compounds to analyze/infer suitable methods for synthesis and industrial applications.	1,2, 3, 4

Course Outcomes		BL
Engineering Mathematics-I: (KAS 103T)		
S. No.	Course Outcome/ Unit	
	Student will be able to:	
1	Recall the concept of matrices , interpret it's rank and apply for solving linear simultaneous equations	1,2,3
2	Understand the concept of limit, continuity and differentiability and apply in the study of Rolle's , Lagrange's and Cauchy mean value theorem and Leibnitz theorems	1,2,3
3	Associate the concept of partial differentiation for determining maxima, minima, expansion of series and Jacobians.	1,2,3
4	Relate the multiple integral tools for Calculating area, volume, centre of mass and centre of gravity	1,2,3
5	Remember the concept of vector and apply for directional derivatives , solving line, surface and volume integrals.	1,2,3

Course Outcomes		BL
Engineering Mathematics-II: (KAS 203T)		
S. No.	Course Outcome/ Unit	
	Student will be able to:	
1	Understand the tools to solve differential equations and apply in Engineering problems	1,2,3
2	Remember the concept of definite integral , Beta & Gamma function and apply for calculating surface areas and volumes.	1,2,3
3	Understand the concept of convergence of sequence and series and compute Fourier series	1,2,3
4	Illustrate the working methods of complex functions and bilinear transformation and apply in finding analytic functions and conformal mapping .	1,2,3
5	Extend the concepts of complex functions for calculating Taylor's series, Laurent's series and definite integrals	1,2,3

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Course Outcomes		BL
Basic Electrical Engineering: (KEE 101T/201T)		
S. No.	Course Outcome/ Unit	
Student will be able to:		
1	Understand the concepts of electric circuit elements and network solutions with DC supply using various network theorems	2
2	Apply the concepts of single and three phase ac circuits for getting the network characteristics and solutions in terms of circuit elements, branch voltage and currents	3
3	Analyze the various aspects of performances and equivalent circuit design for transformers and Electrical machines	4
4	Illustrate the working principles of induction motor, synchronous machine as well as DC machine and employ them in different area of applications	3
5	Describe the components of low voltage electrical installations and perform elementary calculations for energy consumption.	1

Course Outcomes		BL
Emerging Domain in Electronics Engineering (KEC 101T/ 201T)		
S. No.	Course Outcome/ Unit	
At the end of course student will be able to:		
1	Remember and Understand the concept of PN Junction Diodes, BJT, FET and MOSFET, ICs and OPAMP, numbers systems Boolean Functions and logic gates, components of IoT, principles of sensors and fundamentals of Communication system.	1, 2
2	i. Apply the concept of Number system and Boolean Functions to minimize them using K-Map. ii. Analyze and implement Boolean functions using Basic and universal gates.	3, 4
3	i. Apply the concept of Diodes and Transistors to study rectifiers, clippers clampers, regulators and amplifiers. ii. Analyze the circuits based on diodes, BJTs and FETs.	3, 4
4	i. Apply the concept of OPAMP to study the operation of amplifiers, summers, differentiators, integrators etc. ii. Analyze the circuits based on OPAMPs.	3, 4
5	Compare and Design different types of circuits based on Diodes, Transistors and OPAMPs.	5

Course Outcomes		BL
Programming for Problem Solving: (KCS 101T/ 201T)		
S. No.	Course Outcome/ Unit	
Student will be able to:		
1	Develop simple algorithms for arithmetic and logical problems.	2, 3
2	Translate the algorithms to programs & execution (in C language).	3
3	Implement conditional branching, iteration and recursion	3
4	Decompose a problem into functions and synthesize a complete program using divide and conquer approach.	4
5	Use arrays, pointers and structures to develop algorithms and programs.	2, 3

Course Outcomes		BL
Fundamental of Mechanical Engineering and Mechatronics (KME 101T/ 201T)		
S. No.	Course Outcome	
Student will be able to:		
1	Understand the concept of stress and strain, factor of safety, beams	2
2	Understand the basic component and working of internal combustion engines, electric and hybrid vehicles, refrigerator and heat pump, air-conditioning.	2
3	Understand fluid properties, conservation laws, hydraulic machinery used in real life.	2
4	Understand the working principle of different measuring instrument with the knowledge of accuracy, error and calibration, limit, fit, tolerance and control system.	2
5	Understand concept of Mechatronics with their advantages, scope and Industrial application, the different types of mechanical actuation system, the different types of hydraulic and pneumatic systems.	2
6	Apply concepts of strength of material for safe design, refrigeration for calculation of COP, concepts of fluid mechanics in real life, concepts of measurements in production systems	3

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Course Outcomes		BL
Soft Skill I - (KNC-101)		
S. No.	Course Outcome / Unit	
	Student will be able to:	
1	Understand the correct usage of grammar	2
2	Apply the fundamental inputs of communication skills in making speech delivery, individual conference, and group communication.	3
3	Evaluate the impact of interpersonal communication on their performance as a professional and in obtaining professional excellence at the workplace.	5
4	Enhance their level at multifarious administrative and managerial platforms by learning skills and techniques of persuasion and negotiation.	6
5	Equip with basics of communication skills and will apply it for practical and oral purposes by being honed up in presentation skills and voice-dynamics.	3

Course Outcomes		BL
Artificial Intelligence for Engineering - (KMC-101)		
S. No.	Course Outcome / Unit	
	Student will be able to:	
1	Understand the evolution and various approaches of AI	2
2	Understand data storage, processing, visualization, and its use in regression, clustering etc.	2
3	Understand natural language processing and chatbots	2
4	Understand the concepts of neural networks	2
5	Understand the concepts of face, object, speech recognition and robots	2

Course Outcomes		BL
Emerging Technology for Engineering - (KMC-102)		
S. No.	Course Outcome / Unit	
	Student will be able to:	
1	Understand the concepts of internet of things, smart cities and industrial internet of things	2
2	Understand the concepts of cloud computing	2
3	Understand the concepts of block chain, cryptocurrencies, smart contracts	2
4	Understand design principles, tools, trends in 3 D printing and drones	2
5	Understand augmented reality (AR), virtual reality (VR), 5G technology, brain computer interface and human brain	2

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Course Outcomes		BL
Engineering Physics Lab: (KAS 151P/ 251P)		
S. No.	Course Outcome/ Unit	
	Student will be able to:	
1	Learn about the Newton's ring experiment and apply it for different applications.	3
2	Learn about the diffraction pattern to study the spectrum for determining the wavelength of mercury light.	4
3	Understand the concept of Hall's effect and use it to find the physical parameters such as Hall's coefficient, carrier concentration, mobility of charge carriers etc.	2
4	Study about black body radiation and verify it from Stefan's law.	2
5	Understand the concept of optical rotation and use it to find the specific rotation of an optically active substance.	2

Course Outcomes		BL
Engineering Chemistry Lab: (KAS 152P/252P)		
S. No.	Course Outcome/ Unit	
	Student will be able to:	
1	Use different analytical instruments.	2, 3, 4
2	Measure ion content like chloride content and iron content.	2, 3, 4, 5
3	Measure the alkalinity and hardness of water.	2, 3, 4, 5
4	Estimate physical properties of liquids such as Surface tension, Viscosity and Conductance of solution.	2,3, 4, 5
5	Synthesize Polymers used in daily life.	2,3, 4, 5

Course Outcomes		BL
Basic Electrical Engineering Lab: (KEE 151P/251P)		
S. No.	Course Outcome/ Unit	
	Student will be able to:	
1	Conduct experiments illustrating the application of KVL/KCL and network theorems to DC electrical circuits.	4
2	Demonstrate the behavior of AC circuits connected to single phase AC supply and measure power in single phase as well as three phase electrical circuits.	5
3	Perform experiment illustrating BH curve of magnetic materials.	4
4	Calculate efficiency of a single phase transformer and DC machine.	3
5	Perform experiments on speed measurement and reversal of direction of three phase induction motor and Identify the type of DC and AC machines based on their construction.	4

Course Outcomes		BL
Course 2 - Electronics Engineering Lab (KEC 151P/ 251P)		
S. No.	Course Outcome/ Unit	
	At the end of course student will be able to:	
1	Identify basic electronic components and electronic measuring instruments.	1
2	Realize the V-I characteristics of PN junction Diode, Zener Diode and BJT.	2, 5
3	Understand the application of Diode as Half wave and Full wave Rectifier	3, 5
4	i. Realize the application of Operational Amplifiers and ii. Verification of Logic Gates	1, 2
5	Design a Regulated power supply using PCB lab	5

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Course Outcomes		BL
Programming for Problem Solving Lab: (KCS 151P/ 251P)		
S. No.	Course Outcome/ Unit	
Student will be able to:		
1	Design algorithm and flowchart for arithmetic and logical relation based problems.	2, 3
2	Convert the algorithms and flow chart to programs for the execution (in C language).	2
3	Find the patterns based on conditional branching, iteration and recursion.	2,3
4	Simplify the solution of Complex problem by using the concept of function in dividing and Conquer approach.	3, 4, 5
5	Understand the storing of data and records in the memory using arrays, pointers and structures.	2, 3

Course Outcomes		BL
English Language Lab (KAS-154P/ 254P)		
S. No.	Course Outcome/ Unit	
Student will be able to:		
1	Understand the basic objective of the course by being acquainted with specific dimensions of communication skills i.e. Reading, Writing, Listening, Thinking and Speaking.	2
2	Create substantial base by the formation of strong professional vocabulary for its application at different platforms and through numerous modes as Comprehension, reading, writing and speaking etc.	6
3	Apply it at their work place for writing purposes such as Presentation/official drafting/administrative communication and use it for document/project/report/research paper writing.	3
4	Evaluate the correct and error-free writing by being well-versed in rules of English grammar and cultivate relevant technical style of communication & presentation at their work place and also for academic uses.	5
5	Apply it for practical and oral presentation purposes by being honed up in presentation skills and voice-dynamics. They will apply techniques for developing interpersonal communication skills and positive attitude leading to their professional competence.	3, 6

Course Outcomes		BL
Engineering Graphics and Design Lab (KCE 151P)		
S. No.	Course Outcome/ Unit	
Student will be able to:		
1	Understanding of the visual aspects of engineering design.	2
2	Applying engineering tools necessary for engineering practice.	3
3	Analysis of Isometric views.	4
4	Understanding of engineering graphics standards and effective communication through graphics.	2
5	Applying computer-aided geometric design, solid modelling and creating working drawings.	3

Course Outcomes		BL
Mechanical Worshop Lab: (KWS 151P)		
S. No.	Course Outcome/ Unit	
Student will be able to:		
1	To understand and analyze different types of operations on woods (such as sawing, Joint making etc).	2, 4
2	To analyse and apply various Fitting operations.	4, 5
3	To be able to analyse and apply Forming operations (such as bending, upsetting and drawing).	4, 5
4	To get familiarized and able to analyze Electric arc welding and Oxyacetylene gas welding.	2, 4
5	To be able to analyse and apply various sheet metal operations.	4, 5
6	To understand and able to create different machine components using Lathe machine and various machining operations.	2, 6
7	To get familiarized and able to discuss with various foundry techniques.	2