



AJAY KUMAR GARG ENGINEERING COLLEGE

(Affiliated to Dr. APJ Abdul Kalam Technical University, Lucknow, UP, College

Code - 027)

ADDITIONAL DOCUMENTS

2.3.1 Student centric methods, such as experiential learning, participative learning and problem-solving methodologies are used for enhancing learning experiences (20) (2023-24)



AJAY KUMAR GARG ENGINEERING COLLEGE

27th Km Stone, Delhi-Hapur Bypass Road, Adhyatmik Nagar, Ghaziabad - 201 009

Phones : 8744052891 to 94, 7290034976, 7290034978,

Email : info@akgec.ac.in • Website: www.akgec.ac.in

AJAY KUMAR GARG ENGINEERING COLLEGE



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2.3.1 Student centric methods, such as experiential learning, participative learning and problem-solving methodologies are used for enhancing learning experiences

- Various Laboratories for enhancing learning experiences
- Pictures of technical events

Software Development/ Excellence Cell



AKGEC Road, Ajay Kumar Garg Engineering College Campus, Ghaziabad, 201302, UP, India

Latitude
28.675333 N
Local 01:34:03 PM
GMT 08:04:03 AM

Longitude
77.502721 E
Altitude 215.8 meters
Tuesday, 12/28/2021


Director
Ajay Kumar Garg Engg. College
Ghaziabad

Recipient of the Academic Excellence Award for Best Engineering College in UPTU
from H.E. The Governor of U.P. for two consecutive years



AJAY KUMAR GARG ENGINEERING COLLEGE

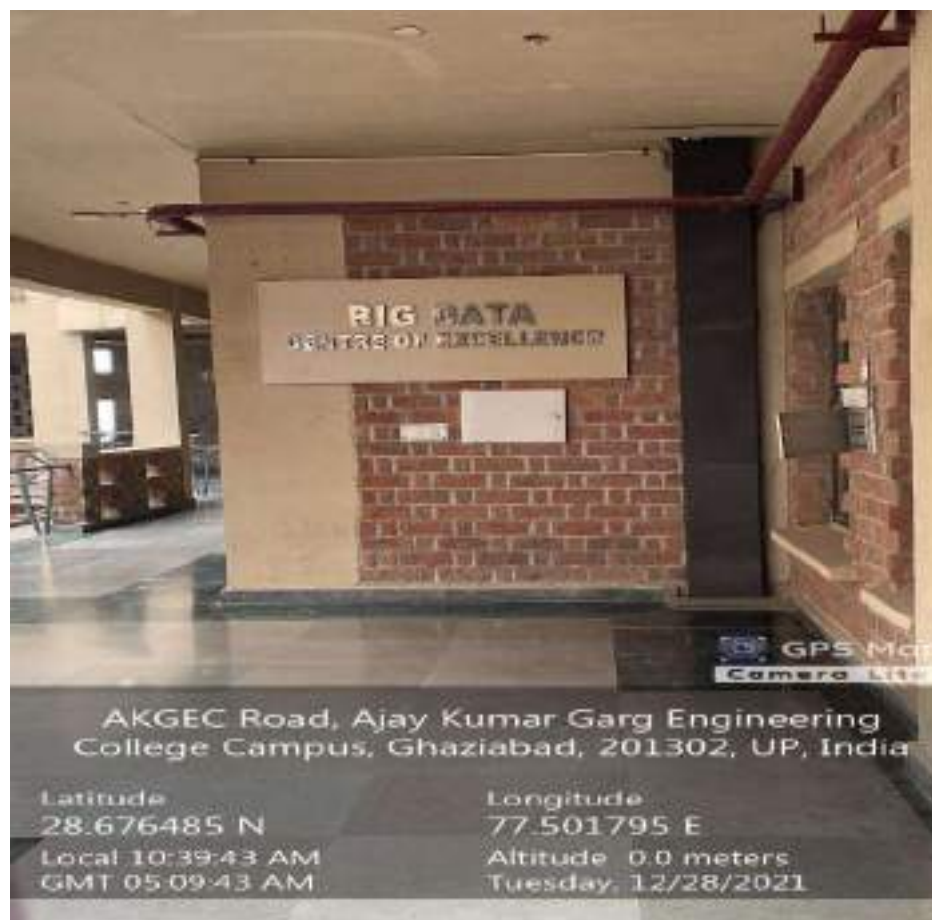
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Email : info@akgec.ac.in • Website: www.akgec.ac.in



CSIT BLOCK, THIRD FLOOR, SOFTWARE DEVELOPMENT CENTER



A.K.G.
Director
Ajay Kumar Garg Engg. College
Ghaziabad

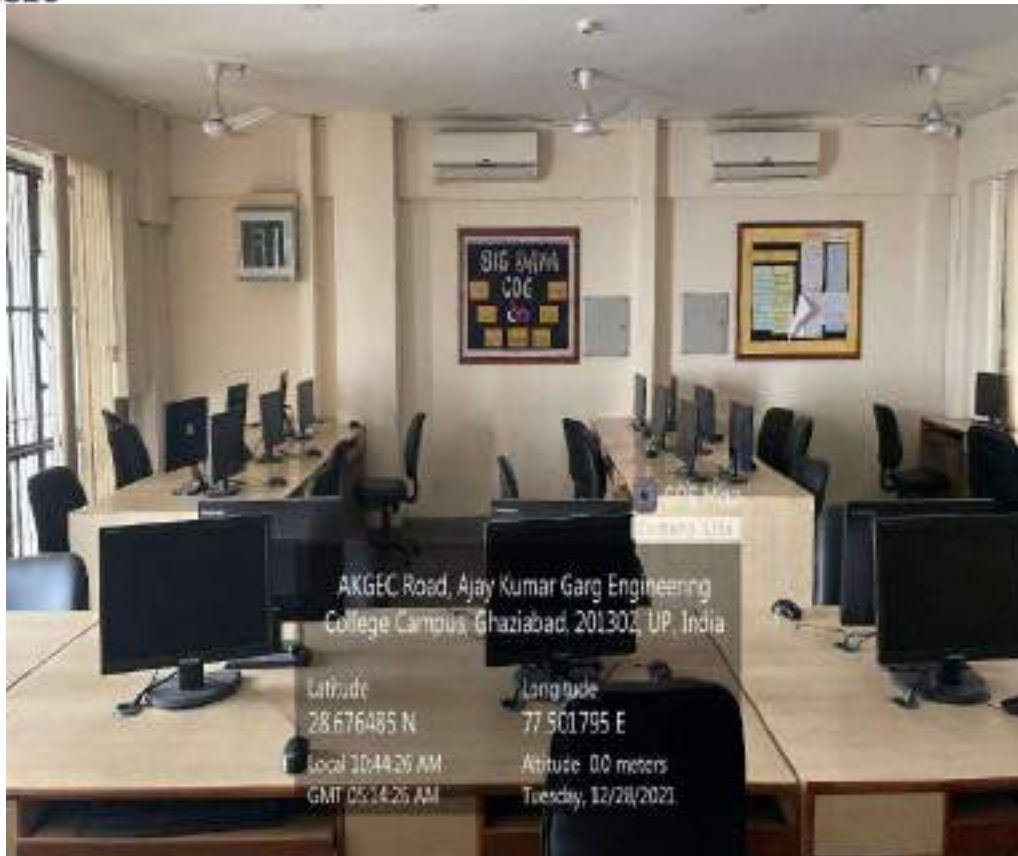


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AKGEC Road, Ajay Kumar Garg Engineering
College Campus, Ghaziabad, 201302, UP, India

Latitude
28.676485 N

Longitude
77.501795 E

Local 10:44:26 AM
GMT 05:14:26 AM

Altitude: 00 meters
Tuesday, 12/28/2021

CSIT BLOCK, THIRD FLOOR, BIG DATA CENTER OF EXCELLENCE LAB


Director
Ajay Kumar Garg Engg. College
Ghaziabad

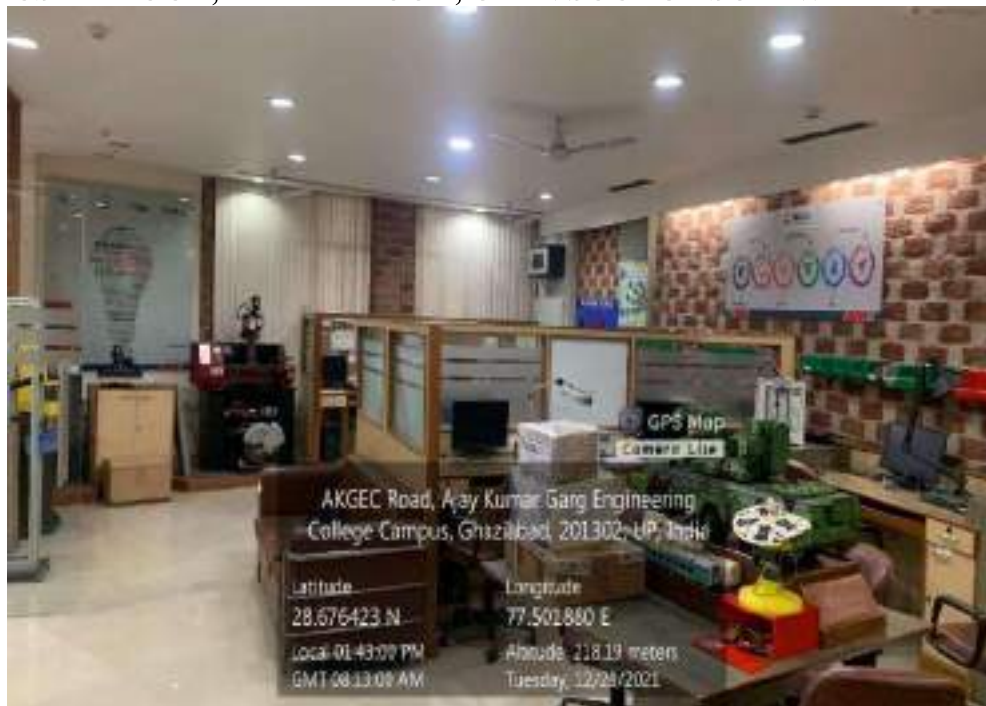
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from H.E. The Governor of U.P. for two consecutive years



CLOUD COMPUTING CELL



CSIT BLOCK, THIRD FLOOR, OPEN SOURCE SOFTWARE LAB



MECHANICAL BLOCK, GROUND FLOOR, CENTER OF EXCELLENCE (FAB LAB)



AJAY KUMAR GARG ENGINEERING COLLEGE

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LINKS FOR EXTRA CURRICULAR SOCIETIES

<https://www.akgec.ac.in/life-akgec/societies/extra-curricular-societies/euphony/>

<https://www.akgec.ac.in/life-akgec/societies/extra-curricular-societies/footprints/>

<https://www.akgec.ac.in/life-akgec/societies/extra-curricular-societies/horizon/>

<https://www.akgec.ac.in/life-akgec/societies/extra-curricular-societies/gooni/>

<https://www.akgec.ac.in/life-akgec/societies/extra-curricular-societies/renaissance-2/>

<https://www.akgec.ac.in/life-akgec/societies/extra-curricular-societies/taal/>

<https://www.akgec.ac.in/life-akgec/societies/extra-curricular-societies/verve/>


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Ghaziabad

AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

S.NO	YR	Semester	LAB CODE	LAB NAME	Faculty Name	NUMBER OF PRACTICALS AS PER CURRICULUM	NUMBER OF PRACTICAL BEYOND CURRICULUM	TITIAL OF EXPERIMENT (S) BEYOND SYLLABUS
1	3rd	VI	KCE-551	Transportation Engineering Lab	Mr. Prashant Agarwal, AP	13	2	Marshal mix design
2	3rd	VI	KCE-552	Environmental Engineering Lab	Mr. Animesh Rai, AP	8	2	Specific gravity of coarse aggregate Determination of BOD.
3	3rd	VI	KCE-553	Structural detailing lab	Mr. Priyank Srivastava, AP	8	2	Determination of fluoride. instead of study of full set of structural drawing should be told to make good for construction stage drawing of residential building, commercial building educational building.
4	2nd	IV	KCE-452	Solid Mechanics Lab	Mr. Atri Tyagi, AP	10	2	Detailed of structural elements as per new earthquake Resistant design code and detailing codes for seismic zones. To find deflections in Beam having unsymmetrical bending.
5	2nd	IV	KCE-451	Material Testing Lab	Mr. Prashant Agarwal, AP	17	2	To find horizontal thrust in a three-hinged arch and to draw influence line diagrams for horizontal Thrust end Bending moment. impact test for coarse aggregate crushing strength test for coarse aggregate
6	3rd	V	KCE-552	Geotechnical Engineering Lab	Mr. Priyank Srivastava, AP	8	2	Retrieving soil samples and conducting SPT tests by advancing boreholes through hand-held auger. Determination of shear strength of soil by Direct shear test.
7	2nd	III	KCE-352	Surveying & Geomatics Lab	Ms. Anubha Gupta, AP	11	2	To prepare conventional symbol chart based on the study of different types of topographical maps To perform fly leveling with Auto/tiling level.
8	2nd	III	KCE-353	FM LAB	Ms. Nikita Jaiswal, AP	14	2	determination of boundary layer thickness find velocity profile over a plate
9	2nd	III	KCE-553	QEM Lab.	Ms. Kshama Shukla, AP	5	2	Estimation of Quantities for footing Estimation of Quantities for Staircase

Director
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Ghaziabad

LIST OF EXPERIMENTS OFFERED TO STUDENTS BEYOND SYLLABUS

LIST OF EXPERIMENTS OFFERED TO STUDENTS BEYOND SYLLABUS									
S. No.	Year	Semester	Lab Name	Lab Code	Faculty Name	List of Experiments offered beyond syllabus (Minimum two experiments)			
1	2nd Year	III	DATA STRUCTURE USING C	KCS - 351	Dr. Sachin Kumar	1. Write a program in C to implement Tower of Hanoi.			
2						2. Write a program in C to implement Insertion and Deletion in Linked list.			
3			Computer Organization Lab	KCS - 352	Mr. Akhilesh verma	3. To implement sorting using arrays.			
4						4. To implement Graph Traversal.			
5						1. Design of N-bit Carry Look ahead Adder			
6						2. Design N-bit Counter			
7	2nd Year		Discrete Structure & Logic Lab	KCS - 353	Ms. Hamit saini	1. Baseball best-of-5 series: Experimental probabilities			
8						2. Baseball: Binomial Probability			
9			Python Programming Lab	KCS - 452	Ms. Hamit saini	3. Expected Value Problems			
10						4. Baseball: One and One			
11						5. Binary Relations: Influence			
12						1. To Write a Python program for Designing a calculator.			
13	3rd Year	V	DATABASE MANAGEMENT SYSTEM LAB	KCS - 551	Mr. sandeep Yadav	2. Design and understand the working of pycharm IDE platform.			
14						1. PL/SQL programming Write a PL/SQL block code to print the squares of numbers upto 99. Write a PL/SQL block code to insert data into table CUSTOMER			
15			COMPILER DESIGN LAB	KCS - 552	Mr. Pradeep Gupta	1. Write program for string manipulation.			
16						2. Write program to implement SLR parser.			
17						DESIGN AND ANALYSIS OF ALGORITHM LAB	KCS - 553	Dr. Rajesh Prashad	1. Write a program to implement N Queen Problem using Backtracking
18									2. Write a program to perform Travelling Salesman Problem
19	3rd Year	VI	Software Engineering Lan	KCS - 651	Dr. Sonam Gupta	1. Draw the Object Diagram of the problem.			
20						2. Prepare test cases for testing the system using White box/Black Box Approach.			
21			Web Technology Lab	KCS - 652	Dr. Shahank Sahu	1. Write program in java to allot rooms in the hostel using inheritance. Incorporate method overloading and method overriding concept in the program.			
22						Artificial Intelligence Lab	KCS - 751	Dr. Pratima Singh	1. Statistical Analysis using Numpy in Python Programming Language.
23									2. Implementation of linear regression using Python Programming Language.
24						4th Year	VII		
25									

Dr. Sunita Yadav
Prof. CSE

Director
Ajay Kumar Garg Engg. College
Ghaziabad

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1	2nd Year	III	DATA STRUCTURE USING C	KCS - 351	Dr. Sachin Kumar	1. Write a program in C to implement Tower of Hanoi.
2						2. Write a program in C to implement Insertion and Deletion in Linked list.
3						3. To implement sorting using arrays.
4						4. To implement Graph Traversal.
5			Computer Organization Lab	KCS - 352	Mr. Akhilesh verma	1. Design of N-bit Carry Look ahead Adder
6						2. Design N-bit Counter
7						1. Baseball bat-of-5 series: Experimental probabilities
8						2. Baseball: Binomial Probability
9			Discrete Structure & Logic Lab	KCS - 353	Ms. Hamil sahil	3. Expected Value Problems
10						4. Basketball: One and One
11						5. Binary Relations: Influence
12						1. To Write a Python program for Designing a calculator.
13						2. Design and understand the working of pycharm IDE platform.
14	3rd Year	V	Python Programming Lab	KCS - 452	Ms. Hamil sahil	1. PL/SQL programming Write a PL/SQL block code to print the squares of numbers upto 99. Write a PL/SQL block code to insert data into table CUSTOMER
15			DATABASE MANAGEMENT SYSTEM LAB	KCS - 551	Mr. sandeep Yadav	1. Write program for string manipulation.
16			COMPILER DESIGN LAB	KCS - 552	Mr. Pradeep Gupta	2. Write program to implement SLR parser.
17						
18			DESIGN AND ANALYSIS OF ALGORITHM LAB	KCS - 553	Dr. Rajesh Prashad	1. Write a program to implement N Queen Problem using Backtracking
19			Software Engineering Lab	KCS - 651	Dr. Sonam Gupta	2. Write a program to perform Travelling Salesman Problem
20						1. Draw the Object Diagram of the problem.
21						2. Prepare test cases for testing the system using White box/Black Box Approach.
22						Web Technology Lab
23						
24	4th Year	VII	Artificial Intelligence Lab	KCS - 751	Dr. Pratima Singh	1. Statistical Analysis using Numpy in Python Programming Language.
25						2. Implementation of linear regression using Python Programming Language.

Dr. Sunita Yadav
Prof. CSE

Director
Ajay Kumar Garg Engg. College
Ghaziabad

AJAY KUMAR GARG ENGINEERING COLLEGE GHAZIABAD

ECE DEPARTMENT

LIST OF EXPERIMENTS OFFERED TO STUDENTS BEYOND SYLLABUS

S. No.	Year	Semester	Lab Name	Lab Code	Faculty Name	List of Experiments offered beyond syllabus (Minimum two experiments)
1	1st Year	I / II	Electronics Engineering Lab	KEC151P / KEC251P	Dr. Seema Garg	1. Study of series and parallel clipper circuit.
2						2. Study Opamp as an inverting and non-inverting amplifier.
3			Electronics Devices Lab	KEC351	Mr. Alok Kumar	1. Application of transistor as a switch.
4						2. To study the characteristics of regulated DC power supply.
5						1. Design and implement Half Adder and Full Adder using Logic gates.
6			Digital System Design Lab	KEC352	Dr. Jitender Chhabra	2. Design and implement Half Subtractor and Full Subtractor using Logic gates.
						3. Implement a given boolean expression using Decoder/Multiplexer.
						4. Design a decade counter.
7	2nd Year		Communication Engineering Lab	KEC451	Ms. Anu Goel	1. Simulation of different Line Coding Schemes using MATLAB.
8						2. To generate Pre-Emphasis & De-Emphasis waves using MATLAB.
9			Analog Circuits Lab	KEC452	Dr. Aruna Tyagi	1. To study Opamp as an inverting and non-inverting amplifier
10						2. To determine gain and bandwidth of CE amplifier from its frequency response
11			Signal System Lab	KEC453	Mr. Dushyant Singh Chauhan	1. Verification of sampling theorem using MATLAB
12						2. Implementation of decimation and interpolation processes using MATLAB
13			Integrated Circuits Lab	KEC-551	Mr. Om Krishna Gupta	1. To study and design adder/subtractor circuit using op-amp.
14						2. To study and design Integrator and differentiator using op-amp.
15			Microprocessor & Microcontroller Lab	KEC-552	Ms. Sakshi Mittal	1. To study 8085 processor and various commands for its operation.
16						2. To interface 8255 programmable peripheral interface and verify its operation.
17	3rd Year		Digital Signal Processing Lab	KEC-553	Dr. Amit Garg	1. With the help of Fourier series make a square wave from sine wave and cosine wave.
18						2. Generate an Amplitude Modulation having side lobe frequencies 1200 Hz and 800 Hz. Observe and verify the theoretical FFT characteristics with the observed ones.
19			Digital Communication Lab	KEC651	Dr. Abhishek Joshi	1. To generate the constellation diagram and plot symbol error probability for the 4-PAM
20						2. To study the PCM and plot Message signal, sampled signal, quantized signal, and digital signal
21			Control System Lab	KEC-652	Mr. Neeraj Sharma	1. Determine the block diagram reduction of a transfer function using simulink
22						2. Plot the polar plot of a given transfer function.
23			CAD for Electronics Lab	KEC-653 B	Mr. Anup Kumar	1. AC analysis of CMOS inverter with variable capacitive load.
24						2. Design the layout of CMOS inverter.
25	4th Year		Microwave & Radar Engineering Lab	KEC751D	Ms. Richa Sharma	1. VSWR measurement with open and short circuit
						2. Study of MIC components

Dr. P. K. Chopra
Prof. ECE

Director
Ajay Kumar Garg Engg. College
Ghaziabad

LIST OF EXPERIMENTS OFFERED TO STUDENTS BEYOND SYLLABUS

S. No.	Year	Lab Name	Lab Code	Faculty Name	List of Experiments offered beyond syllabus (Minimum two experiments)
1	2nd Year	Computer Organization Lab	KCS 352	Mr. Pankaj Singh	Implementation and Verify logic gates AND, OR, NOT, XOR.
2					Implementation and Verify Universal gates NAND and NOR.
5		Discrete Structures & Theory of	KCS 353	Ms. Nandita Goyal	Apply Kruskal and Prim's algorithm in a graph
					Write a program to solve recurrence relation
					Write a program to apply Pigeonhole principle
		Data Structures using o lab	KCS 351	Mr. Puneet Kumar Goyal	Sparse Matrix: Perform operations such as add, multiply or transpose of the matrices in their sparse form
					AVL Tree: Implementation of Create, Insert, Rotate, Traverse operations.
		Operating System Lab	KCS 451	Mr. Pancham	1. Write a program to implement Optimal Page replacement algorithms
					2. Write a program to Semaphore synchronization problems
9					3. Write a program to implement Second Chance algorithms
		Python Lab	KNC 453	Mr. Lucknesh	1. Write a program to create radio button (male, female and transgender) and a label. Default selection should be on female the label must display the current selection made by user
					2. Write a program to create a window that disappear automatically after 5 second
					3. Write a program to create an arithmetic calculator using tkinter
		Web Designing lab	KIT 451	Mr. Santosh	1. To design a registration form of IRCTC railway ticket booking.
					2. To design a calculator using java script.
12		Micro Processor Lab	KCS452	Ms. Sulekha	To perform Addition and Subtraction using 8086.
13					To sort an array using 8086.
					To perform Multiplication using 8086.
					To calculate square root of 8 bit number using 8086.
14		Database management lab	kos 551	Mr. Lucknesh	Creating Entity-Relationship Diagram using case tools. Write a PL/SQL block code to print the squares of numbers using for loop Write a PL/SQL block code to insert data into table CUSTOMER
		Design And Analysis of algorithm lab	kos 553	Mr. Brindra	Program for Linear Search, Binary Search Program for BFS and DFS on a graph represented using Adjacency list
		Web Technology lab	KIT 551	Mr. Anmol Jain	Write an XML program providing the book details and display the document in Internet Explorer Write an XML program for creation of DTD, which specifies set of rules.
		Computer Network Lab	KCS 553	Ms. Tahira Nazim	Wireless configuration using packet tracer along with server configuration for DHCP, HTTP, DNS, FTP Router configuration to communicate between different bases of LAN Implementation of Cryptographic algorithms (RSA, DES)
20					PYTORCH_Neural_Network_MNIST_HandWrittenDigits_with_validation-Gaurav Chaudhary KERAS_CHN_MNIST_HandWrittenDigits_with_validation-Gaurav Chaudhary To perform dimensionality reduction operation using PCA for Houses Data Set.
		Software Engineering Lab	KCS 651	Dr. Shikha Aggarwal	Write a program of Halstead Analysis of Software Science Write a program for function point analysis of cost estimation.
24		Cryptography and network secur	KIT 751	Ms. Shilpi Gupta	Write a program to implement Message authentication code Write a program to implement Restat cipher structure
		Project Lab	KIT 753	Dr. Ruchi Gupta	development of AI based Projects
					development of Blockchain based Projects
					development of IoT Based Projects
					Python Programming
					development of AI based Projects
					development of Blockchain based Projects

AJAY KUMAR GARG ENGINEERING COLLEGE GHAZIABAD
EN DEPARTMENT

LIST OF EXPERIMENTS OFFERED TO STUDENTS BEYOND SYLLABUS

No.	Year	Semester	Lab Name	Lab Code	Faculty Name	List of Experiments offered beyond syllabus (Minimum two experiments)
1	1st Year	I / II	Basic Electrical Engineering Lab	KEE151P / KEE251P	Ms. Navya Sharma	1. Determine the time current characteristics of given MCB (6 Amp). 2. Calibration of Single Phase Energy meter.
2	2nd Year	III	Electrical Measurement & Measurement Lab	KEE-352	Ms. Nidhi Singh	1. Signal conditioning of analog signal using Lab VIEW/ MATLAB. 2. Measurement of power using CT and PT.
3			Electrical Workshop Lab	KEE-353	Dr. J. G. Yadav	1. Measurement of form factor of a rectified sine wave. 2. To study of different kinds of power Insulators.
4			Network Analysis and Synthesis Lab	KEE-353	Mr. Parveen Dhall	1. To perform the transient response of RL circuit. 2. Verification of parameters properties in interconnection of 2, two port networks in cascade interconnection
5		IV	Circuit Simulation Lab	KEE-451	Mr. Arun Kumar Maurya	1. Determination of frequency response of a Twin – T-notch filter. 2. To determine attenuation characteristics of a low pass / high pass active filters.
6			Electrical Machines - I Lab	KEE-452	Mr. Ritesh Sharma Dr. Sarika Kalra	1. To study the construction and working of four-point DC machine starter. 2. To study the torque-speed characteristic of Brushless DC motor.
7	3rd Year	V	Power System - I Lab	KEE-551	Mr. Arun Kumar Maurya	1. Calculation of ground clearance of transmission line. 2. Calculate the parameters for underground cable
8			Control System Lab	KEE-552	Ms. Nupur Mittal	1. To Study PC Based Flow Control using variable speed pump. 2. To Study PC Based level Control using variable speed pump.
9			Electrical Machines - II Lab	KEE-553	Mr. Ritesh Sharma Dr. Sarika Kalra	1. To Study the speed Control of BLDC motor using PWM method. 2. To study IGBT controlled AC motor VVVF Drive.
10		VI	Power System - II Lab	KEE-651	Dr. Dibya Bharti	1. Determine the time current characteristics of the given MCB (6 Amp). 2. Perform load flow analysis on a 3- Bus System using G-S (Gauss Seidel) method using MATLAB
11			Microprocessor & Microcontroller Lab	KEE-652	Mr. Neeraj Gupta	1. To generate a square wave of a given frequency using 8253/54 IC. 2. To perform microprocessor based stepper motor operation through 8085 / 8086 kit. 3. To obtain interfacing of DMA controller with 8085 / 8086 microprocessor.

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		Power Electronics Lab	KEE-653	Dr. Vani Bhargava	1. Four quadrant operation of DC motor using single phase dual converter trainer. 2. Speed control of three phase induction motor using three phase AC voltage controller.
4th Year	VII	Industrial Automation & PLC Lab	KEN-751	Mr. Arun Kumar Maurya	1. Logic implementation for traffic control Application. 2. Logic implementation for Bottle filling Application.

Dr. Hemant Ahuja
HeD (EN)

Director
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Ghaziabad

CE- List of Experiments beyond syllabus

NO	YR	Sem	LAB CODE	LAB NAME	Faculty Name	NUMBER OF PRACTICAL AS PER CURRICULUM	NUMBER OF PRACTICAL BEYOND CURRICULUM	TOTAL OF EXPERIMENT (S) BEYOND SYLLABUS
1	3rd	VI	KCE-651	Transportation Engineering Lab	Mr. Prashant Agarwal, AP	13	2	Marshal mix design
2	3rd	VI	KCE-652	Environmental Engineering Lab	Mr. Animesh Rai, AP	8	2	Determination of BOD. Determination of fluoride.
3	3rd	VI	KCE-653	Structural detailing lab	Mr. Priyank Srivastava, AP	8	2	instead of study of full set of structural drawing should be told to make good for constructon stage drawing of residential building, commercial building educational building, Detailing of structural elements as per new earthquake Resistant design code and detailing codes for seismic zones.
4	2nd	IV	KCE-452	Solid Mechanics Lab	Mr. Atri Tyagi, AP	10	2	To find deflections in Beam having unsymmetrical bending. To find horizontal thrust in a three-hinged arch and to draw influence line diagrams for horizontal Thrust end Bending moment.
5	2nd	IV	KCE-451	Material Testing Lab	Mr. Prashant Agarwal, AP	17	2	impact test for coarse aggregate crushing strength test for coarse aggregate

3rd	V	KCE-552	Geotechnical Engineering Lab	Mr. Priyank Srivastava, AP	8	2	Retrieving soil samples and conducting SPT tests by advancing boreholes through hand-held auger.
2nd	III	KCE-352	Surveying & Geomatics Lab	Ms. Anubha Gupta, AP	11	2	Determination of shear strength of soil by Direct shear test.
2nd	III						To prepare conventional symbol chart based on the study of different types of topographical maps
2nd	III					2	To perform fly leveling with Auto/tilting level.
							determination of boundary layer thickness
			FM LAB	Ms. Nikita Jaiswal, AP	14		find velocity profile over a plate
9	2nd	III	KCE-553	Ms. Kshama Shukla, AP	5	2	Estimation of Quantities for footing
			QEM Lab.				Estimation of Quantities for Staircase



Dr. Rakesh Srivastava
HOD, CE

Director
Ajay Kumar Garg Engg. College
Ghaziabad


Director
Ajay Kumar Garg Engg. College
Ghaziabad

**DR. A.P.J. ABDUL KALAM TECHNICAL
UNIVERSITY, UTTAR PRADESH, LUCKNOW**



EVALUATION SCHEME & SYLLABUS

FOR

B. TECH. FOURTH YEAR

**ELECTRONICS ENGINEERING
ELECTRONICS AND COMMUNICATION ENGINEERING
ELECTRONICS AND TELECOMMUNICATION ENGINEERING**

AS PER

AICTE MODEL CURRICULUM

[Effective from the Session: 2021-22]

B.Tech. VII Semester

Electronics and Communication Engineering

S. No.	Course Code	Course Title	Periods			Evaluation Scheme				End Semester		Total	Credits
			L	T	P	CT	TA	Total	PS	TE	PE		
1.	KHU701/KHU702	HSMC -1 #/HSMC-2 #	3	0	0	30	20	50		100		150	3
2.	KEC-071-074	Department Elective –IV	3	0	0	30	20	50		100		150	3
3.	KEC-075-076	Department Elective –V	3	0	0	30	20	50		100		150	3
4.		Open Elective-II	3	0	0	30	20	50		100		150	3
5.	KEC-751X	Lab for Department Elective -	0	0	2				25		25	50	1
6.	KEC-752	Mini Project or Internship Assessment**	0	0	2				50			50	1
7.	KEC-753	Project I	0	0	8				150			150	4
		MOOCs (Essential for Hons. Degree)											
		Total										850	18

Course Code

Course Title

Department Elective-IV

KEC-071	Digital Image Processing
KEC-072	VLSI Design
KEC-073	Optical Network
KEC-074	Microwave & Radar Engineering

Department Elective-V

KEC-075	Information Theory & Coding
KEC-076	Wireless & Mobile Communication
KEC-077	Micro & Smart Systems
KEC-078	Speech Processing

Course Code

*****Elective Lab**

KEC751A	Digital Image Processing Lab
KEC751B	VLSI Design Lab
KEC751C	Optical System and Networking Lab
KEC751D	Microwave & Radar Engineering Lab

***Students will opt one subject from the list of Department Elective-IV with its corresponding lab. i.e. if someone has opted Digital Image Processing (KEC071) from Department Elective-IV then it will be mandatory to opt the DIP Lab (KEC751A).

Note: After successful completion of 160 credits, a student shall be eligible to get Under Graduate degree in Engineering. A student will be eligible to get Under Graduate degree with Honours only, if he/she completes additional university recommended courses only (Equivalent to 20 credits; NPTEL Courses of 4 Weeks, 8 Weeks and 12 Weeks shall be of 2, 3 and 4 Credits respectively) through MOOCs. For registration to MOOCs Courses, the students shall follow NPTEL. Site <http://nptel.ac.in/> as per the NPTEL policy and norms. The students can register for these courses through NPTEL directly as per the course offering in Odd/Even Semesters at NPTEL. These NPTEL courses (recommended by the University) may be cleared during the B. Tech degree program (not necessary one course in each semester). After successful completion of these Moocs courses the students, shall, provide their successful completion NPTEL status/certificates to the University (COE) through their college of study only. The student shall be awarded Hons. Degree (on successful completion of MOOCS based 20 credit) only if he/she secures 7.50 or above CGPA and passed each subject of that Degree Programme in single attempt without any grace marks.

The proposed MOOC courses are common to all B.Tech. Branches as follows:

NPTEL Course (MOOCS Courses Hons. Degree)

1. Algorithms for Big Data
2. C Programming and Assembly Language
3. Concepts of Thermodynamics
4. Data Analytics with Python
5. Data Science for Engineers
6. Design Analysis and Algorithm
7. Design of Reinforced Concrete Structures
8. Developing Soft Skills and Personality
9. Emotional Intelligence
10. Enhancing Soft Skills and Personality
11. Fundamental of Welding Science and Technology
12. Fundamentals of Conduction And Radiation
13. Google Cloud Computing Foundation Course
14. Introduction To Block chain Technology And Applications
15. Introduction To Industry 4.0 And Industrial Internet Of Things
16. Introduction To Internet Of Things
17. Introduction To Robotics
18. Introduction To Embedded System Design
19. Manufacturing Process Technology I & II
20. Matlab Programming For Numerical Computation
21. Mechanics of Materials
22. Patent Law for Engineers and Scientist
23. Speaking Effectively
24. Structural Analysis I



**सत्र 2018-19 से AICTE Model Curriculum में आनर्स डिग्री के लिए
MOOC'S (NPTEL) कोर्स**

सत्र 2018-19 से विश्वविद्यालय में AICTE Model Curriculum लागू किया गया है। सत्र 2021-22 में पास करने वाले छात्रों को आनर्स डिग्री प्राप्त करने के लिए सामान्य पाठ्यचर्या के साथ-साथ ओपन सोर्स लर्निंग के पाठ्यक्रम एन0पी0टी0एल0 (NPTEL) से 20 क्रेडिट प्राप्त करने का निर्णय लिया गया था। "अभियंत्रण एवं प्रौद्योगिकी के स्नातक स्तरीय पाठ्यक्रम के सामान्य पाठ्यचर्या के साथ-साथ यदि किसी छात्र 20 क्रेडिट के अतिरिक्त विषयों का अध्ययन, कक्षा अध्यापन या ओपन सोर्स लर्निंग के मध्यम से पूर्ण किया जाता है एवं उसका सी0जी0पी0ए0 7.5 या उससे अधिक हो तथा उसके द्वारा स्नातक पाठ्यक्रम के सभी विषयों की परीक्षा प्रथम प्रयास में बिना किसी कृपांक के उत्तीर्ण की गयी हो, तो वह छात्र बी0टेक. पाठ्यक्रम को आनर्स के साथ उत्तीर्ण करेगा।

शिक्षा की गुणवत्ता के लिए पूर्व निर्धारित 06 मूक्स कोर्स के साथ 18 मूक्स कोर्सों को भी सम्मिलित किया गया है। बी0टेक0 पाठ्यक्रमों में भी मूक्स विषयों की NPTEL से मैपिंग की गयी है। AICTE Model Curriculum सेलेब्स में बी0 टेक0 पाठ्यक्रमों के विश्वविद्यालय की वेबसाइट में प्रदर्शित पाठ्यचर्या से MOOC'S कोर्स का चयन प्रदर्शित सलग्न सूची से ऐच्छिक चुनते समय इस बात का अवश्य ध्यान रखें कि वह विषय छात्रों द्वारा बी0टेक0 पाठ्यक्रम के दौरान किसी भी रूप में अध्ययन नहीं किया जाय। MOOC'S विषयों का चयन उस विभाग के छात्र/छात्राओं द्वारा नहीं किया जायेगा जिस विभाग/विधा में MOOC'S कोर्स NPTEL से संचालित है।

(Equivalent to 20 credits; NPTEL Courses of 4 Weeks, 8 Weeks and 12 Weeks shall be of 2, 3 and 4 Credits respectively) through MOOCs. For registration to MOOCs Courses, the students shall follow NPTEL Site <http://nptel.ac.in/> as per the NPTEL policy and norms. The students can register for these courses through NPTEL directly as per the course offering in Odd/Even Semesters at NPTEL. These NPTEL courses (recommended by the University) may be cleared during the B. Tech degree program (not necessary one course in each semester). After successful completion of these Moocs courses the students, shall, provide their successful completion NPTEL status/certificates to the University (COE) through their college of study only. The student shall be awarded Hons. Degree (on successful completion of MOOCS based 20 credit) only if he/she secures 7.50 or above CGPA and passed each subject of that Degree Programme in single attempt without any grace marks.





AJAY KUMAR GARG ENGINEERING COLLEGE

27th Km Stone, Delhi-Hapur Bypass Road, Adhyatmik Nagar, Ghaziabad - 201 009

Phones : 8744052891 to 94, 7290034976, 7290034978,

Email : info@akgec.ac.in • Website: www.akgec.ac.in

IDEA Lab

Under the umbrella of IDEA Lab, following cells are actively operating:

- 1) Intellectual Property Rights (IPR) Cell
- 2) Technical Business Incubation (TBI) Centre
- 3) Institution Innovation Council (IIC)

Major Achievements of IDEA Lab:

- AKGEC IPR Cell manages Utility patents, Design Patents, Trademarks, and copyrights. IPR Cell has filed more than 100+ patent applications in academic session 2023-24. This year, the IPR cell has signed three MOUs with different attorneys, which has expedited the filing process and reduced costs.
- Technical Business Incubation (TBI) Centre was inaugurated on 3rd May 2024.
- Ten startups have been incubated at the Technical Business Incubation (TBI) Centre and seed funding of 10000/- INR is given to each of the ten startups.
- AKG INCUBATOR FOUNDATION was incorporated with Ministry of Corporate Affairs, Govt. of India, on 20.02.2024 under the companies act 2013.
- A successful collaboration with DAV School, Pratap Vihar, Ghaziabad, was completed under the framework of the Institution Innovation Council (IIC), Ministry of Education's Innovation Cell (MIC), and the ATAL Tinkering Lab initiative, Government of India.

Main Activities organized by IDEA Lab:

- IPR Cell celebrated World Intellectual Property Day on April 22, 2024, by organising one-day workshop on Intellectual Property Rights (IPR) to raise awareness about Intellectual Property Rights and IP Management.
- Organised an Alumni meet for the alumni of AKGEC on 31st March 2024 in Vedanta Farms.
- Organised a two days Startup Conclave event on May 2nd - 3rd 2024 in which around 70 startup ideas were presented by AKGEC students.
- Organised internal SIH-2023 in September 2024 in which 137 teams presented their ideas. Top 100 teams have been shortlisted and registered on SIH-2023 portal for National Level competition scheduled in December 2023.
- Organised an Industrial Visit at ATAL Incubation Centre-BIMTECH, Noida on May 29th 2024.
- Organized an online session titled "Business Model Canvas" on June 25th, 2024 to mentor the incubated startups. Ms. Vandana Sharma, Manager - Innovation Hub, AKTU, Lucknow was the distinguished speaker.
- Organized a session titled "How to Plan for a Startup and Legal & Ethical Steps" on June 27th, 2024, to mentor the incubated startups. Mr. Sajal Jain, Founder, Lapras Business Consultants (LBC) | Corporate Strategy, Finance, was the distinguished speaker.
- Organised a Field Visit to attend Startup Mahakumbh Event at Pragati Maidan, New Delhi on March 19th 2024.


Director
Ajay Kumar Garg Engg. College
Ghaziabad



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LINKS FOR STUDENT EXTRA CURRICULAR ACTIVITIES

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<https://www.akgec.ac.in/life-akgec/societies/extra-curricular-societies/horizon/>

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LINKS FOR STUDENT CHAPTERS

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Director
Ajay Kumar Garg Engg. College
Ghaziabad