The Annual Quality Assurance Report (AQAR) of the IQAC

All NAAC accredited institutions will submit an annual self-reviewed progress report to NAAC, through its IQAC. The report is to detail the tangible results achieved in key areas, specifically identified by the institutional IQAC at the beginning of the academic year. The AQAR will detail the results of the perspective plan worked out by the IQAC. *(Note: The AQAR period would be the Academic Year. For example, July 1, 2012 to June 30, 2013)*

Part – A

1. Details of the Institution

1.1 Name of the Institution

> Ajay Kumar Garg Engineering College

1.2 Address Line 1

> 27th Km Stone, Delhi Hapur Bypass Road

Address Line 2

> Adhyatmik Nagar, Ghaziabad, U.P.

City/Town

> Ghaziabad

State

> Uttar Pradesh

Pin Code

> 201009

Institution e-mail address

> directorakg@akgec.org

Contact Nos.

> 0120-2761843, 8744052895

Name of the Head of the Institution:

> Dr. R.K. Agarwal

Tel. No. with STD Code:

> 0120-2761843, 8744052895

Mobile:

> 9313321455

Name of the IQAC Co-ordinator: Dr. P.K. Chopra

Mobile: 9350023027

IQAC e-mail address: akgecplacements@gmail.com

1.3 **NAAC Track ID** *(For ex. MHCOGN 18879)*   UPCOGN19231

1.4 **NAAC Executive Committee No. & Date:**
    (For Example EC/32/A&A/143 dated 3-5-2004.
    This EC no. is available in the right corner- bottom
    of your institution's Accreditation Certificate)

66th Executive Committee meeting dated 21 Feb, 2015

1.5 Website address: www.akgec.in

Web-link of the AQAR: http://www.akgec.in/documents/AKGEC-AQAR-2017-18.pdf

For ex. http://www.ladykeanecollege.edu.in/AQAR2012-13.doc

1.6 Accreditation Details

Sl. No.	Cycle	Grade	CGPA	Year of Accreditation	Validity Period
1	1st Cycle	B	2.79	2015	2020
2	2nd Cycle				
3	3rd Cycle				
4	4th Cycle				

1.7 Date of Establishment of IQAC :   DD/MM/YYYY   10/10/2014

1.8 AQAR for the year *(for example 2010-11)*   2017-18

1.9 Details of the previous year's AQAR submitted to NAAC after the latest Assessment and Accreditation by NAAC ((*for example AQAR 2010-11submitted to NAAC on 12-10-2011)*

   i.   AQAR 2015-16 on 09/11/2016 (DD/MM/YYYY)
   ii. AQAR 2016-17 on 23/01/2018   (DD/MM/YYYY)
   iii. AQAR_____ _____ (DD/MM/YYYY)
   iv. AQAR_____ _____ (DD/MM/YYYY)

1.10 Institutional Status

   University   State [√] Central [ ] Deemed [ ] Private [ ]

   Affiliated College   Yes [√]   No [ ]

   Constituent College   Yes [ ]   No [√]

   Autonomous college of UGC   Yes [ ]   No [√]

   Regulatory Agency approved Institution   Yes [√]   No [ ]

   (eg. AICTE, BCI, MCI, PCI, NCI)

   Type of Institution   Co-education [√]   Men [ ]   Women [ ]

                           Urban [√]   Rural [ ]   Tribal [ ]

   Financial Status   Grant-in-aid [ ]   UGC 2(f) [ ]   UGC 12B [ ]

                           Grant-in-aid + Self Financing [ ]   Totally Self-financing [√]

1.11 Type of Faculty/Programme

   Arts [ ]   Science [ ]   Commerce [ ]   Law [ ]   PEI (Phys Edu) [ ]

   TEI (Edu) [ ]   Engineering [√]   Health Science [ ]   Management [ ]

   Others   (Specify)   [.]

1.12 Name of the Affiliating University (*for the Colleges)* | Dr. APJ Abdul Kalam Technical University, Lucknow, U.P. |

1.13 Special status conferred by Central/ State Government-- UGC/CSIR/DST/DBT/ICMR etc

Autonomy by State/Central Govt. / University | No

University with Potential for Excellence | No   UGC-CPE | No

DST Star Scheme | No   UGC-CE | No

UGC-Special Assistance Programme | No   DST-FIST | No

UGC-Innovative PG programmes | No   Any other (*Specify*) | TIFAC CORE by DST

UGC-COP Programmes | No

2. IQAC Composition and Activities

2.1 No. of Teachers | 3

2.2 No. of Administrative/Technical staff | 2

2.3 No. of students | 4

2.4 No. of Management representatives | 1

2.5 No. of Alumni | 2

2. 6 No. of any other stakeholder and

community representatives | Nil

2.7 No. of Employers/ Industrialists | 2

2.8 No. of other External Experts | Nil

2.9 Total No. of members | 16

2.10 No. of IQAC meetings held

2.11 No. of meetings with various stakeholders: No.   [4]   Faculty   [3]

Non-Teaching Staff Students   [2]   Alumni   [2]   Others   [4]

2.12 Has IQAC received any funding from UGC during the year?   Yes [ ]   No [√]

If yes, mention the amount   [   ]

2.13 Seminars and Conferences (only quality related)

(i) No. of Seminars/Conferences/ Workshops/Symposia organized by the IQAC

Total Nos. [1]   International [ ]   National [1]   State [ ]   Institution Level [ ]

(ii) Themes   [Human Values & Professional Ethics]

2.14 Significant Activities and contributions made by IQAC

[NBA Certification for all Engineering Deptt.]

2.15 Plan of Action by IQAC/Outcome

The plan of action chalked out by the IQAC in the beginning of the year towards quality enhancement and the outcome achieved by the end of the year *

Plan of Action	Achievements
Mentorship classes	(i)Placement and higher studies improved by 20%. (ii)Number of companies visiting college improved by 25%.

* Attach the Academic Calendar of the year as Annexure. (Attached as Appendix)

2.15 Whether the AQAR was placed in statutory body   Yes [√]   No [ ]

Management [ ]   Syndicate [ ]   Any other body [ ]

Provide the details of the action taken

[Progress of all planned activities to be monitored on monthly basis.]

Criterion – I
1. Curricular Aspects

1.1 Details about Academic Programmes

Level of the Programme	Number of existing Programmes	Number of programmes added during the year	Number of self-financing programmes	Number of value added / Career Oriented programmes
PhD				
PG	5	0	5	0
UG	7	0	7	2
PG Diploma				
Advanced Diploma				
Diploma				
Certificate				
Others				
Total	12	0	12	2

Interdisciplinary				
Innovative				

1.2 (i) Flexibility of the Curriculum: CBCS/Core/Elective option / Open options
   (ii) Pattern of programmes:

Pattern	Number of programmes
Semester	12
Trimester	Nil
Annual	Nil

1.3 Feedback from stakeholders*   Alumni [√]   Parents [√]   Employers [√]   Students [√]
    (On all aspects)

   Mode of feedback   :   Online [√]   Manual [√]   Co-operating schools (for PEI) [ ]

*Please provide an analysis of the feedback in the Annexure

1.4 Whether there is any revision/update of regulation or syllabi, if yes, mention their salient aspects.

> Syllabus is revised in a cycle of four years. During 2017-18, the revised syllabus has been implemented for 2nd year.

1.5 Any new Department/Centre introduced during the year. If yes, give details.

> Big Data Centre of Excellence

Criterion – II

2. Teaching, Learning and Evaluation

2.1 Total No. of permanent faculty

Total	Asst. Professors	Associate Professors	Professors	Others
247	208	17	22	0

2.2 No. of permanent faculty with Ph.D.

67

2.3 No. of Faculty Positions Recruited (R) and Vacant (V) during the year

Asst. Professors		Associate Professors		Professors		Others		Total	
R	V	R	V	R	V	R	V	R	V
15	15	0	0	0	0	0	0	15	15

2.4 No. of Guest and Visiting faculty and Temporary faculty

15

2.5 Faculty participation in conferences and symposia:

No. of Faculty	International level	National level	State level
Attended	12	66	2
Presented papers	15	50	-
Resource Persons	1	4	-

2.6 Innovative processes adopted by the institution in Teaching and Learning:

Mentorship classes are conducted each year for doubt clearing session for IInd and IIIrd year students. These classes are conducted by senior students.

2.7 Total No. of actual teaching days during this academic year

180

2.8 Examination/ Evaluation Reforms initiated by the Institution (for example: Open Book Examination, Bar Coding, Double Valuation, Photocopy, Online Multiple Choice Questions)

Double Evaluation

2.9 No. of faculty members involved in curriculum restructuring/revision/syllabus development as member of Board of Study/Faculty/Curriculum Development workshop

0	2	

2.10 Average percentage of attendance of students

75%

2.11 Course/Programme wise distribution of pass percentage: **(final year of 2018 passout batch)**

Title of the Programme	Total no. of students appeared	Division				
		Distinction %	I %	II %	III %	Pass %
CSE	192	31.58	67.37	1.05	Nil	98.96
ECE	186	35.52	63.93	0.55	Nil	98.39
EI	35	31.25	68.75	NIL	Nil	91.43
EN	117	25.86	71.55	2.59	Nil	99.15
IT	122	35.04	64.10	0.85	Nil	95.90
ME	184	29.28	67.96	2.76	Nil	98.37
Civil	133	26.56	71.88	1.56	Nil	96.24

2.12 How does IQAC Contribute/Monitor/Evaluate the Teaching & Learning processes :

(a) Each Engineering department has got a dedicated committee to monitor teaching learning process.
(b) Each department HoD attends 2 classes of different faculty per week.
(c) One faculty seminar is conducted every week by each department
(d) One e-journal review is done by each faculty every month.
(e) For each technical department one guest lecture is organised by industry expert every month.

2.13 Initiatives undertaken towards faculty development

Faculty / Staff Development Programmes	Number of faculty benefitted
Refresher courses	19
UGC – Faculty Improvement Programme	Nil
HRD programmes	10(HVPE)
Orientation programmes	Induction Programme (for 15 new faculty joined in July & August,2017)
Faculty exchange programme	Nil
Staff training conducted by the university	Nil
Staff training conducted by other institutions	41(Technical Staff)
Summer / Winter schools, Workshops, etc.	60
Others	64 faculty participated in FDPs

2.14 Details of Administrative and Technical staff

Category	Number of Permanent Employees	Number of Vacant Positions	Number of permanent positions filled during the Year	Number of positions filled temporarily
Administrative Staff	61	0	5	4
Technical Staff	67	0	6	1

Criterion – III

3. Research, Consultancy and Extension

3.1 Initiatives of the IQAC in Sensitizing/Promoting Research Climate in the institution

> The college places special emphasis on collaboration with industries at various levels to groom the students to meet the standards of industry. These include establishing collaborative facilities for student training in emerging multi disciplinary technologies and undertaking industry sponsored consultancy projects.
>
> As on date nine centres of Excellence have been established in collaboration with eminent multinational companies like Kuka Robotics, Bosh Rexroth, National Instruments, Pepperl+Fuchs, Janatics, Mitsubishi Electric India, Siemens and Fronius. 15 MoUs have been signed with reputed industries.

3.2 Details regarding major projects

	Completed	Ongoing	Sanctioned	Submitted
Number	2	1	-	-
Outlay in Rs. Lakhs	1 Lakh	-	-	-

3.3 Details regarding minor projects

	Completed	Ongoing	Sanctioned	Submitted
Number	-	3	-	-
Outlay in Rs. Lakhs	-	8.48	-	-

3.4 Details on research publications

	International	National	Others
Peer Review Journals	23	-	-
Non-Peer Review Journals	26	5	15
e-Journals	19	-	-
Conference proceedings	24	60	-

3.5 Details on Impact factor of publications:

Range 0.2 – 6.23   Average 3.47   h-index 64   Nos. in SCOPUS 30

3.6 Research funds sanctioned and received from various funding agencies, industry and other organisations

Nature of the Project	Duration Year 2017-18	Name of the funding Agency	Total grant sanctioned	Received
Major projects	1 Year	AKGEC, BHEL, Haridwar	1,00,000/-	1,00,000/-
Minor Projects	-	-	-	-
Interdisciplinary Projects	-	-	-	-
Industry sponsored	1 Year	GPP, Ghaziabad, TIFAC CORE/ Mitsubishi Electric Cop	8,50,000/-	4,25,000/-
	4 months	GPP, TAC AUTOMATION	28,500	-
Projects sponsored by the University/ College	-	-	-	-
Students research projects *(other than compulsory by the University)*	1 Year	AICTE	3,00,000/-	3,00,000/-
Any other(Specify)	-	-	-	-
Total	3 Year 4 months	-	Rs. 12,78,500/-	Rs. 8,25,000/-

3.7 No. of books published   i) With ISBN No. | 2 | Chapters in Edited Books | 20 |

ii) Without ISBN No. | |

3.8 No. of University Departments receiving funds from   **N/A**

UGC-SAP | | CAS | | DST-FIST | |

DPE | | DBT Scheme/funds | |

3.9 For colleges   **N/A**   Autonomy | | CPE | | DBT Star Scheme | |

INSPIRE | | CE | | Any Other (specify) | |

3.10 Revenue generated through consultancy | 4.45 Lakhs |

3.11 No. of conferences organized by the Institution

Level	International	National	State	University	College
Number	-	05			
Sponsoring agencies	-	AKGEC,AKTU CSI, IETE, GMA			

3.12 No. of faculty served as experts, chairpersons or resource persons | 17 |

3.13 No. of collaborations   International | 0 | National | 1 | Any other | 0 |

3.14 No. of linkages created during this year | 4 |

3.15 Total budget for research for current year in lakhs:

From Funding agency | Nil | From Management of University/College | 20 Lakhs |

Total | 20 Lakhs |

3.16 No. of patents received this year **NIL**

Type of Patent		Number
National	Applied	-
	Granted	-
International	Applied	-
	Granted	-
Commercialised	Applied	-
	Granted	-

3.17 No. of research awards/ recognitions received by faculty and research fellows of the institute in the year

Total	International	National	State	University	Dist	College
8	2	2	2			2

3.18 No. of faculty from the Institution
   who are Ph. D. Guides | 8 |
   and students registered under them | 12 |

3.19 No. of Ph.D. awarded by faculty from the Institution | 2 |

3.20 No. of Research scholars receiving the Fellowships (Newly enrolled + existing ones)

JRF | - | SRF | - | Project Fellows | - | Any other | - |

(Gate Scholarship)

3.21 No. of students Participated in NSS events: **Nil**

University level	-	State level	-
National level	-	International level	-

3.22 No. of students participated in NCC events: **Nil**

University level	-	State level	-
National level	-	International level	-

3.23 No. of Awards won in NSS: **Nil**

University level		State level	
National level		International level	

3.24 No. of Awards won in NCC: **Nil**

University level		State level	
National level		International level	

3.25 No. of Extension activities organized

University forum		College forum			
NCC		NSS		Any other	√

3.26 Major Activities during the year in the sphere of extension activities and Institutional Social Responsibility

(a)Adarsh Vikas Kendra

The college is running a primary school named "Adarsh Vikas Kendra" to provide free primary education to children of economically weaker sections of society. These children are provided free uniforms, books, bags and are regularly attending classes conducted in the campus. These children are also being provided fully nutritious free meal (lunch) during the day by the college. The college has also made arrangements to provide them basic knowledge of computers. A TV set with TATA sky connection has also been provided to the school by the college. Various indoor and outdoor games are conducted to keep them physically fit. All required game equipments are provided by college. The school has a well maintained library of story books in Hindi and English both. The students can borrow these books for their home. Every year the school kids give a dance performance in college function for celebration of Diwali Night.

(b) Adoption of Kajipura Primary & Junior High School

College has adopted a Primary & Junior high school in Kajipura Village situated near College. Every Saturday a group of students visit and teach students in the school.

(c)Donations

(i)Donation of Computers

The college has been regularly donating computers to various organizations to spread computer literacy among the underprivileged ones. Over 450 computers have been donated to various schools, colleges and organizations.

(ii)Money Donations

The college has been generously contributing for the benefit of people suffering from natural calamities as well as for other noble causes. The details of donations made this year are as follows:

➢ Relief fund for Psumani in Japan: (Rs. 5.00 Lakh)
➢ Donation to Shri Krishan Gaushala, Ghaziabad: (Rs. 2.00 Lakh)
➢ Donation to Bhartiya Shiksha Samiti, Jammu: (Rs. 2.00 Lakh)

(d) Environmental Sustenance & Eco Friendliness

The basic philosophy of AKGEC towards all processes and activities is oriented towards environmental sustenance and eco friendliness. The architecture, design and construction of college building is such that bricks and stones are used maximum and cement plastering is minimal which makes it maintenance free. The architecture of buildings ensures maximum sunlight on all floors. This allows high circulation of natural air and green plantations to flourish on all floors. The buildings are thermally insulated which keeps the temperature lower in summers and higher in winters, thereby reducing the need of power consumption. A network of rain harvesting systems ensures continuous recharging of ground water table. The sewage treatment plant recycles the water filtered through its beds for horticulture needs of green lawns, hedges and plantations of college.

Each block and building is surrounded by large open areas on which green lawns, hedges and planters maintain a healthy balance with environment.

There is high focus on conservation of natural resources. A committee on energy conservation ensures usage of electricity only where and when needed with minimum wastage. The committee also promotes

procurement and installation of efficient electrical systems to save electricity. Installation of solar heaters provides hot water in the hostels without usage of electricity. Automatic water dispensers are used in toilets to avoid continuous running of water. Special efforts are made to co-ordinate trips of various vehicles to optimize their usage.

The waste management area is given high priority. The recyclable garbage waste and non recyclable wastes are dumped in specified containers / dustbins. A separate agency with specialized expertise and dealing in waste collection and disposal has been hired to collect the wastes on daily basis. This company processes the bi-degradable waste to make manure and disposes of cyclable & non-cyclable wastes as per established norms of Government.

Criterion – IV

4. Infrastructure and Learning Resources

4.1 Details of increase in infrastructure facilities:

Facilities	Existing	Newly created	Source of Fund	Total
Campus area	1,18,313 SqM	Nil	College	1,18,313 SqM
Class rooms	87	Nil	College	87
Laboratories	131	Nil	College	131
Seminar Halls	10	Nil	College	10
No. of important equipments purchased (≥ 1-0 lakh) during the current year.	109	13	College	122
Value of the equipment purchased during the year (Rs. in Lakhs)	1357.43	196.47	College	1553.90
Others				

4.2 Computerization of administration and library

The AKGEC Library System consists of a Central Library and 09 departmental libraries and 05 hostel libraries, which collectively support the teaching, research and extension programmes of the Institute. All students and employees of the Institute are entitled to make use of the Library facilities on taking library membership. The Library, besides having a huge collection of books on engineering, science and humanities offers library services through its various divisions.

The Library uses KOHA software package, which is an open source for library management system that supports all in-house operations of the Library with Barcode Technology & provide circulation information through email. It consists of modules on acquisition, cataloguing, circulation, periodical, article indexing and web OPAC. More than 99,055 bibliographic records of books and other resources available in the library can be accessed through the web OPAC. The database of books available in the Library is being updated on day-to-day basis with details of recently acquired books. Records of all the Library patrons have also been created in the KOHA software package.

The central Library of AKGEC has a wide collection of books on science, technology, humanities, management and personality development. It has a large collection of books, journals, magazines and non-book material. It has over 99,055 books in various disciplines, 6498 CD-ROMs, Seminar reports and project reports. It also has a section with more than 1000 books for various postgraduate competitive examinations and personality development.

Central Library subscribes 36 Magazines, 11 newspapers and 153 national journals in print form. A separate Digital Library has been set up with subscription of IEEE All-Society Periodicals Package (ASPP), Springer Electrical, Electronics & Computer Science, ASME, AICTE Science Direct Engineering (Elsevier), AICTE-IET Completer Journal package, DELNET and National Digital Library (NDL) membership for use of the students and faculty for online learning.

4.3 Library services:

	Existing		Newly added (2017-18)		Total	
	No.	Value	No.	Value	No.	Value
Text Books	85133	2,89,71,644.00	5048	20,79,776.00	90181	3,10,51,420.00
Reference Books	8559	36,50,098.00	315	1,29,780.00	8874	37,79,878.00
e-Books	-	-	50	1,97,257.00	50	1,97,257.00
Journals	-	-	153	3,69,569.00	153	3,69,569.00
e-Journals	621	16,82,813.00	-	-	622	13,85,501.00
Digital Database	1,87,847	2,64,788.00	-	-	1,87,847	2,37,175.00
CD & Video	5716	-	782	-	6498	-
Others (specify)						

4.4 Technology up gradation (overall)

	Total Computers	Computer Labs	Internet	Browsing Centres	Computer Centres	Office	Depart -ments	Other s
Existing	1390	31	180 Mbps	5	1	11	7	-
Added	155	2	50 Mbps	-	-	-	-	-
Total	1545	33	230 Mbps	5	1	11	7	-

4.5 Computer, Internet access, training to teachers and students and any other programme for technology upgradation (Networking, e-Governance etc.)

Total Computers -1545

Internet Bandwidth- 230 Mbps

4.6 Amount spent on maintenance in lakhs :

   i) ICT   105.31

   ii) Campus Infrastructure and facilities   349.88

   iii) Equipments   53.99

   iv) Others   399.75

Total :   908.93

Criterion – V
5. Student Support and Progression

5.1 Contribution of IQAC in enhancing awareness about Student Support Services

Personality Development Programmes (PDP)

Academic excellence alone is not enough and cannot guarantee a good career. Certain personality attributes and soft skills are essential not only to get a good job placement but also to be able to contribute and grow in an organization. Taking cognizance of this, the college emphasises all round development through a range of extracurricular activities as well as organizing and conducting formal Personality Development Program.

This programme spanning over 100 hours is conducted by a professional agency on weekends and includes training in communication skills, group discussion, interpersonal skills and interviews. This is a mandatory programme for second year B.Tech. and first year MCA students of the college. This programme helps in the overall personality development of students. The whole exercise is intended to increase the employability of students. Amidst an inspiring and invigorating environment, students undergo training that turns them into top notch professionals.

Infosys Campus Connect Program (CCP)

As a step towards grooming students into perfect professionals and to make them compatible with the IT industry, campus connect programme is run by our T&P department which is conducted by Infosys. Under this programme, Infosys has designed and provided 100 hours teaching module, for which, the faculty at AKGEC has been especially trained by the firm. This module is taught to top 120 students of third year as an extra course on weekends.

In addition to this, Infosys has also provided a range of projects that the students take up as a part of their final year projects. These steps not only help Infosys to reduce their in house training time but also help the students in acquiring technical skills which make them more suitable for IT industry.

5.2 Efforts made by the institution for tracking the progression

The institution facilitates the modern teaching learning academic programmes according to the present competitive job employment market by arranging campus interviews every year for the final year students. The personality development programs and campus connect programmes are also conducted for the student progression to higher level of education or employment. To enhance the students chances of placement in the companies, training & placement cell of the college takes all out efforts to help the students in their campus interview selection process.

5.3 (a) Total Number of students

UG	PG	Ph. D.	Others
3776	25	-	-

(b) No. of students outside the state

150

(c) No. of international students

Nil

Men

No	%
3122	82.14%

Women

No	%
679	17.86%

Last Year (2016-17)						**This Year (2017-18)**					
General	SC	ST	OBC	Physically Challenged	Total	General	SC	ST	OBC	Physically Challenged	Total
2311	506	24	1083	27	3951	2172	471	17	1128	13	3801

Demand ratio   1:8   Dropout %   5%

5.4 Details of student support mechanism for coaching for competitive examinations (If any)

PDP (Personality Development Programme) spanning over 100 hours is conducted by a professional agency on weekends and includes training in communication skills, group discussion, interpersonal skills and interviews. This is a mandatory programme for second year B.Tech. students of the college. This programme helps in the overall personality development of students. The whole exercise is intended to increase the employability of students. Amidst an inspiring and invigorating environment, students undergo training that turns them into top notch professionals.

No. of students beneficiaries

983

5.5 No. of students qualified in these examinations

NET | - | SET/SLET | - | GATE | 70 | CAT | 23 |

IAS/IPS etc | - | State PSC | - | UPSC | - | Others | - |

5.6 Details of student counselling and career guidance

Mock tests are regularly conducted before Placement Drives. Apart from it HoD –T&P counsel and guide students.

No. of students benefitted

388

5.7 Details of campus placement

On campus			*Off Campus*
Number of Organizations Visited	Number of Students Participated	Number of Students Placed	Number of Students Placed
121	853	469	15

5.8 Details of gender sensitization programmes

The institution has set up a Women's Grievance Cell headed one senior lady Professor to cater to the problems & issues related to girls. The college also organizes tree plantation event every year. Apart from this, various lectures and seminars are organized on environmental issues, gender etc.

5.9 Students Activities

    5.9.1   No. of students participated in Sports, Games and other events

State/ University level [137]   National level [-]   International level [-]

    No. of students participated in cultural events

State/ University level [125]   National level [-]   International level [-]

    5.9.2   No. of medals /awards won by students in Sports, Games and other events

Sports : State/ University level [39]   National level [-]   International level [-]

Cultural: State/ University level [25]   National level [-]   International level [-]

5.10 Scholarships and Financial Support

	Number of students	Amount
Financial support from institution	Nil	Nil
Financial support from government	992	661.28 Lakhs
Financial support from other sources	Nil	Nil
Number of students who received International/ National recognitions	Nil	Nil

5.11   Student organised / initiatives

Fairs   : State/ University level | - | National level | - | International level | - |

Exhibition: State/ University level | - | National level | - | International level | - |

5.12   No. of social initiatives undertaken by the students | 2 |

5.13   Major grievances of students (if any) redressed: Nil

Criterion – VI

6. <u>Governance, Leadership and Management</u>

6.1 State the Vision and Mission of the institution

<u>Vision</u>

To introduce undergraduate and postgraduate courses for all engineering branches and award of Ph.D degree, To be one of the best engineering colleges in the country and to be a deemed university.

<u>Mission</u>

We strive to provide and maintain academic environment and systems, enabling maximum learning to produce competent professionals. We also aim at achieving this through transparent academic and administrative policies in the college. We intend to provide conducive atmosphere for research, development and consultancy services to our faculty at national and international level.

6.2 Does the Institution has a management Information System

Yes, College has ERP system in all departments/Sections. It helps to store student related information which enhance decision making for taking routine decisions related to students development and progress in the class, and further helps in planning their placement activity better, and also making its footprint on managing alumni in long run, and much more. MIS also help in managing our human resources, our experts and overall knowledge management in the organization.

6.3 Quality improvement strategies adopted by the institution for each of the following:

6.3.1 Curriculum Development

The institution is affiliated to APJ Abdul Kalam Technical University, Lucknow, U.P. Any changes /upgradation in the curriculum are solely handled by the university in consultation with members of BOS and BOG and suggestions incorporated from affiliated institutions through postal communication.

However institute makes following special efforts for the professional development of its faculty to facilitate effective curriculum delivery:

1. Detailed lecture-wise schedule and course material (preferably hand written notes) are prepared by the faculty for the subject allotted to them.

2. Modern teaching aids such as projectors with computer connectivity and audio-systems with microphone are provided in every classroom.

3. The attendance registers are inspected closely and thoroughly by the Head of the department once in a month to check teaching schedules and number of lectures delivered.

4. Regular meetings are conducted by the HOD with the faculty members to ensure coverage of topics as per syllabus.

5. Faculty is encouraged to pursue PhD programs and/or encouraged to take up the research work individually or in collaboration for improving their professional skills.

6. All the faculty members of various departments are encouraged to participate in National/International Conferences, Seminars, Training Programs, and also to organize National/International Conferences. Furthermore, faculty members are encouraged to publish their research findings in National and International journals.

7. Study leave is extended to faculty members who wish to pursue PhD programs.

8. Self-learning mode, modules with Computer based Training and CDs are available in library which enhances the knowledge bank of the faculty members. Additional initiatives taken by the institution for effective curriculum delivery are listed below:

- Virtual lab
- Video lectures and presentation with NPTEL
- Department Library and Central Library
- EDUSAT
- Software Development Center (SDC), various centers established under TIFAC-CORE are KUKA Robotics, Lab View (NI) and Automation Technology (BOSCH-REXORTH) provides opportunities to students to get industry relevant trainings and competence building beyond curriculum.

6.3.2 Teaching and Learning

The IQAC for each department comprises of HOD and department MR. The contribution of IQAC in improving teaching –learning process is:

- To develop a system for conscious, consistent and catalytic improvement in the overall performance of institution.
- Prepare and collect right feedback form to be filled by students so that the teaching style of the teacher can be judged.
- Analyze the feedback and give advisory for calibration if required to enhance deliveries.
- Conduct seminar, interact with academicians and people from industry to get first hand information on the scientific trend and market need to boost the teaching quality.

- Conduct periodic auditing of faculty members in terms of lecture deliveries with respect to predefined lecture-wise schedule is carried out and reviewed by HoD and department MR (IQAC).
- Monitor the performance of the students.
- Arrange visiting faculty in thrust areas.
- Conduct periodical meetings fortnightly with faculty members for further improvement.

6.3.3 Examination and Evaluation

By the University: University (AKTU) ensures the examination process that it is going on is strictly adhering the norms & principles laid by the university. In this regard, University appoints Nodal center in charges, Center superintendent, Flying squads which are independent of each other. These entities cross verify the procedures and audit one another. This ensures smooth operations. Further these members are assigned rotational duties within a regular interval of number of examinations from the current semester examination to ensure impartial supervision.

By the Institution:
- Conducting a HoD meeting by the Director before every semester examination regarding the smooth conduct/implementation of examination rules, where every HoD give their suggestion on various aspects of examination and evaluation based upon the previous examinations. This enables further improvement in the subsequent examination and evaluation.

- Conducting a general meeting of all faculty members by the Director/Examination Superintendent before end semester examination regarding the smooth conduct/implementation of examination rules, where every faculty members are encouraged to give their suggestion on various aspects of examination based upon inputs of previous examinations. Then the unanimous suggestions are implemented for the subsequent examinations & the evaluations in conjunction with university norms.

6.3.4 Research and Development

The institution allocates funds centrally for research and development. Every department prepares a budget which includes budget allocation for Research activities. Same is approved and spent towards:

a) Procurement of research equipments
b) Upgradations of existing labs in terms of newer technologies.
c) Procurement of vital components for execution of final year projects.
In the past years a good amount of investment has been carried out across the institute.

6.3.5   Library, ICT and physical infrastructure / instrumentation

Spread over 40 acre campus, the college has excellent infrastructure. The academic and administrative blocks, hostels and faculty residences surrounded by lush green lawns provide a conducive environment. The academic complex spanning over the main block, back block, lecture theatre block, mechanical engineering block, CSE and IT block is well provided with fully furnished lecture halls, well equipped laboratories, computer centre, library, seminar halls and faculty rooms to facilitate smooth conduct of courses in a befitting manner. College is Wi-Fi enabled campus includes faculty residences and spacious well furnished hostels accommodation for Boys and Girls.

The college provides a wide range of books and journals (including e-journals) for faculty and students to enhance and develop their talent. The college has sufficient volumes of all books in the issue section with some less frequently referred books kept in the Reference section of the library. Each department also has its own library to facilitate easy access. The college also gives 50% subsidy to faculty members for purchase of personal books to encourage a healthy habit of reading beyond the curriculum needs. The library is also a member of British Council Library and DELNET. The library is open for the students upto 9 pm daily and up to midnight during examination period. In addition to the central library, the departments maintain their own departmental libraries. Hostel libraries, managed by the students, maintain magazines, novels and motivational reading material.

6.3.6   Human Resource Management

The college has documented procedure for recruitment, training and development, motivation and appraisal for the faculty and staff. Our policy is to obtain the high quality human resources for academic and non academic activities.

6.3.7   Faculty and Staff recruitment

The College has a well defined and detailed recruitment policy. The main aspects include getting the widest spectrum of available candidates through advertisements in national, newspaper and on the Internet, properly constituted selection board, thorough interview including presentation, proper evaluation of performance and finally the selection. The interview board consists of the chairman of Board of governors, Director, Dean Academics, Concerned HoD, one specialist in the field from I.I.T or reputed colleges and one nominee of AKTU, Lucknow. Attractive remunerations are provided along with a good working environment to attract the best talent.

6.3.8 Industry Interaction / Collaboration

The college has interface with the industry at many levels including the following:

- ➢ Industrial/Summer Training of students.
- ➢ Student projects sponsored by the industry.
- ➢ Introduction of extra teaching modules proposed by the industry in the college.
- ➢ Industrial visits.
- ➢ Campus placements
- ➢ State of the Art Centres of Excellence in collaboration with eminent multinational companies

For summer training of all B.Tech. Students after III year, the college has linkages with a large number of PSUs and Private sector industry in concerned disciplines. The exposure and association with the industry after the pre-final year provides the students with the requisite orientation for the specialized course and project work which are part of the final year curriculum. A number of students are involved in doing projects with the industry and the college encourages students to undertake industry relevant project work.

With the varied needs of each type of industry, it will never be possible for any curriculum to meet the exact requirement of all industry. There will inevitably be a gap between the training imparted at any academic institution and the job requirements. This gap is filled by providing in-house training to the fresh entrants by the industry. The college has collaborated with industry and introduced modules designed by them in the curriculum.

The college is part of INFOSYS campus connect programme. Under this programme, INFOSYS has designed and provided a 65 hrs module for which the faculty has been especially trained by the firm.

College is committed to fulfilling the dreams of all those who graduate from College. Objective of the placement cell is to place the students in good companies. This is achieved through campus selections conducted in the college for which the students are trained in aptitude, technical and soft skills, much ahead of campus selections. The Cell believes in overall development of the students' personality, which will help them to achieve a rewarding career.

The only institution to have the following State of the Art Centres of Excellence in collaboration with eminent multinational companies to provide industry relevant training and project exposure which offers Global Certification to enhance global employability of students.

AKGEC-KUKA Industrial Robotics training Centre.

AKGEC-NI LabVIEW Academy.

AKGEC-BOSCH Rexroth Centre of Competence in Automation Technologies.

AKGEC-JANATICS Industrial Pneumatics Knowledge Centre.

AKGEC-Siemens Product Lifestyle Management Centre of Excellence.

AKGEC-AIA Competence Development Centre in Integrated Automation.

AKGEC-AMC Advance Manufacturing Centre

AKGEC- Fronius Advance Welding Training and Research Centre

AKGEC SKILLS FOUNDATION (ASF) a joint initiative of Ajay Kumar Garg Engineering College and National Skill Development Corporation (NSDC), under Ministry of Skill Development & Entrepreneurship, has been instrumental for conducting skill development programs for 10th/ 12th pass, ITI/Diploma and Engineering graduates under 'Skill India Mission' of Government of India.

ASF strives to encourage youths to come forward for developing their skills specifically in the domain of automation, robotics, manufacturing and fabrication, so that the disconnect between demand and supply of skilled manpower in the Industry can be bridged, productivity of the existing workforce can be increased and the training & certification needs of the industry can be aligned.

AKGEC Skills offers courses at par with global didactic concepts, in line with National Occupational Standards (NOS) and Qualification Packs (QP). Its objective is to offer Skill development trainings through industry-institution collaboration to empower youths under Certification by nationally and internationally recognized Industries / Societies / Industry Associations / Sector Skill Councils (ASDC, CGSC, ESSCI, IASC) etc.

6.3.9 Admission of Students

85% of seats are filled by University through counseling on the basis of the State Entrance Exam (UPSEE) and the balance 15% seats are allotted as NRI/ management quota to meritorious students based on their rank in AKTU/JEE Entrance Exam and PCM percentage of the 12th class. Over the last three years, all general category seats to the college have nearly got filled during the first round of the counseling ensuring admission of highly meritorious students with very good state ranks.

6.4 Welfare schemes for

Teaching	3 (Leave Encashment, Gratuity, Group Personal Accidental Policy)
Non teaching	5 (Leave Encashment, Gratuity, Group Personal Accidental Policy , Reimbursement of Tuition Fee & Uniform)
Students	1(Medical Insurance)

6.5 Total corpus fund generated   Rs. 945.02 Lakhs

6.6 Whether annual financial audit has been done   Yes √   No

6.7 Whether Academic and Administrative Audit (AAA) has been done?

Audit Type	External		Internal	
	Yes/No	Agency	Yes/No	Authority
Academic	Yes	ISO	Yes	MR
Administrative	Yes	ISO	Yes	MR

6.8 Does the University/ Autonomous College declares results within 30 days?

For UG Programmes   Yes √   No

For PG Programmes   Yes √   No

6.9 What efforts are made by the University/ Autonomous College for Examination Reforms?

University has started model answers for reference to the students. Faculty members make model solutions for the question papers of all the three internal exams as well as the end semester university exams. These solutions are made available to students in the central library. Students are allowed to take copies of the solutions. This has curtailed the tendency of students referring to non standard books and has significantly improved the performance of students in exams.

6.10 What efforts are made by the University to promote autonomy in the affiliated/constituent colleges?

University support college to attain autonomous status for enabling the freedom and flexibility to undertake various reforms in curriculum, admission process and academic/evaluation systems to bring about the desired improvements in quality of teaching, learning outcome of students and employability.

6.11 Activities and support from the Alumni Association

AKGEC has registered alumni association since 2005. One of the strengths of AKGEC College is, and has always been, its alumni. To establish, maintain and nurture a sustained, lifelong, and mutually beneficial relationship with its alumni, AKGEC formed an Alumni Association in 2005. Since its formation, the college has been actively involved in facilitating networking amongst alumni for social and professional synergy. AKGEC organized its first annual alumni meet on 02 April, 2005.

Keeping with the tradition, this year too, the alumni association had successfully organized the 13th Alumni Meet on 19th March 2017. The alumni meet was conducted in the Vedanta farms, adjoining the college campus. The meet was marked by the presence of around 250 alumni from 2002 to 2016 batches. Many Alumni's visited with families.

The meet started with welcoming the alumni and their families. During the meet, the Director, HoDs, Section In-charges and Faculty members informally interacted with the alumni, in which they shared their success stories, experiences and plans for the future.

The event concluded with a flash mob followed by Dinner. The alumni departed with a promise to remain in touch with the Institute through various activities and to meet again in 2018.

Alumni Meet at Bangalore and Chandigarh was also arranged and attended by large number of alumni.

6.12 Activities and support from the Parent – Teacher Association

Continuous counseling, attendance shortage monitoring and communication of the same to parents/guardian to ensure that the students enrolled complete the course successfully. In regard to this, Letter regarding: short attendance and debarred from sessional tests are being sent to parents on regular basis.
Parents and local guardians are invited to the college and discuss the necessary action to be implemented for the progress of the student. Communications of the student's performance to the parents are through the following:

- o Display on the notice board
- o Through periodic performance reports to the parents.
- o Parents Teachers Meet.
- o Online information etc.

Feedback from Parents are collected from time to time.

6.13 Development programmes for support staff

Staff development programme organised in every 6 months by each engineering department. Staff members are also motivated to pursue higher studies.

6.14 Initiatives taken by the institution to make the campus eco-friendly

Energy conservation

Following measures have been undertaken to make the campus eco-friendly:

- The architecture of buildings ensures maximum sunlight on all floors, thereby minimizing requirement / usage of heat and light.
- A committee on energy conservation ensures usage of electricity only where and when required with minimum wastage. The college has gradually moved on from normal light bulbs (least required wattage) to tube lights, slim lights, CFLs and LEDs thus conserving energy to the extent required. This committee also promotes procurement and installation of efficient electrical systems to save electricity. Automatic water dispensers are used in toilets to avoid continuous running of water.
- High capacity air conditioners are kept off at all the times unless these areas are fully occupied. The thermostats of all air conditioners are set at 25 degrees or above so as to avoid wastage as well as ensuring well being of individuals which could be due to sudden increase / decrease of temperature.

Regular interaction / advice / actions by faculty and staff help in inculcating the habit of switching off the lights / fans, etc, when not required. Surprise checks and regular notices reinforce this aspect. Feedback and suggestions aimed towards conserving energy are encouraged.

All water coolers have been connected through aqua guard water filtration machine. To avoid wastage of water / electricity through overflow, automatic cut-off mechanism has been installed. However, to ensure clean and healthy water supply at all times, all aqua guard machines are constantly monitored and inspected on monthly basis by a team which reports for immediate rectification, if required; under an agreement with the firm. The culture of cook / serve only what is required is impressed upon. The dining strength is arrived at through roll call of hostellers in the evening and to ensure no wastage of food, respective warden daily reports the quantum-whether left in individual's plate or at the serving counter thus bringing awareness across the board.

Use of renewable energy

Use of renewable energy is accorded due importance and priority. Solar heaters have been installed in all the six hostels (three for boys and three for girls) and their serviceability is ensured at all times through servicing from the firm annually.

330 KW capacity roof top on grid type Solar power plant having project cost of Rs. 2,15,98,500 has been installed in the year August' 2016. This Solar power plant generates approx 4,22,000 KWH units of electricity per annum. Generated electricity from Solar power plant is used for administrative, academic & hostel building of college. Surplus energy of Solar power plant is also sent to electricity grid through net metering system.

Water harvesting

A network of rain water harvesting system ensures continuous recharging of ground water table. A monthly internal audit system of this Water harvesting system is carried out and is accorded due importance.

Efforts for Carbon neutrality

The bricks and stones used in construction of structures within campus minimize cement plastering which makes it maintenance free. The architecture of buildings ensures maximum sunlight on all floors. This allows high circulation of natural air and green plantations to flourish on all floors. Monthly inspection of college vehicles, timely PUC check and restricted entry of vehicles inside the campus ensures lowest possible emission and pollution free environment thereby neutralizing the carbon effect.

Plantation

Each block and building is surrounded by large open areas on which green lawns, hedges and plants maintain a healthy balance with environment. Monthly inspection is carried out of entire campus is carried out (in letter and spirit) to review the patches for de-weeding, plantation and reorientation according to weather.

Hazardous waste management

Waste management is given high priority. The recyclable garbage waste and non- recyclable wastes are dumped in separate and specified containers / dustbins. A separate agency with specialized expertise in waste collection and disposal has been hired for waste collection on daily basis. The agency also

processes bio-degradable waste to make manure and disposes off cycle able and non-cyclable wastes as per established norms. In addition to the above, due importance is given at the time of procurement itself wherein quality product is only purchased with buy-back clause invariably included and later exercised to avoid items viz. batteries, etc falling in scrupulous hands / usage.

E-waste management

The institution practices effective e-waste management techniques by disposing off the e-junk in the prescribed manner.

Awards:

The college is awarded with following environmental and social awards:

- Paryavaran mitra samman by Paryavaran sachetak samiti in 2010.

- Best technical institution garden trophy during annual flower show- 2010 organized by Ghaziabad development authority.

- Best garden award in garden tourism festival 2010 by Delhi tourism.

- Best institutional garden award during annual flower show Ghaziabad-2014.

- First prize during Flower Show competition Ghaziabad in three categories "College campus Horticulture & Garden" , "Landscaping " & "Tray Garden in 2015.

- First prize during Flower Show competition Ghaziabad in four categories "Institutional Gardens", "Landscaping Competition at Site", " Hanging Basket", "Tray Garden" & " Bonjoei" in 2016.

- First prize during Flower Show competition Ghaziabad in two categories "Institutional Gardens - College", "Landscaping- Institutional" & Third prize in "Large Tray Garden" in 2017.

- First prize during Flower Show competition Ghaziabad in five categories "Institute Gardens - College", "Landscaping" , "Trey / Miniature / Fairy Garden", " Hanging basket" , "Cactus and succulents" in 2018.

Criterion – VII

7. Innovations and Best Practices

7.1 Innovations introduced during this academic year which have created a positive impact on the functioning of the institution. Give details.

➤Our college has introduced many systemic innovations during the last four years in the following areas which have created a positive impact on the functioning of the college.

1. HoD Class check: HoDs check two classes of their respective department per week to assess firsthand the quality of lectures delivered by the faculty. Regular guidance and corrective action through these checks have significantly improved the teaching methodology and standard.

2. Faculty Seminars and Journal Review: A system has been introduced whereby every faculty member reads and reviews a paper published in a reputed national/international journal. Also, weekly faculty seminars are conducted in each department. These have promoted a culture of faculty members keeping abreast with the latest technological developments in their field of interest as well as sharing and cross fertilization of ideas.

3. Incentive to faculty for Paper Publication etc.: Faculty members publishing their research papers in reputed journals and conferences are given cash awards ranging from Rs. 5,000 to Rs. 10,000 per paper. These have proved a source of encouragement and motivation to faculty for taking up research.

4. Encouragement for higher studies: Faculty members are encouraged to pursue higher studies during their service tenure. Study Leave is also granted to faculty members selected in fellowship programs. Incentives of Rs. 1,000 per month for each year of service for M.Tech and Rs. 10,000 per month for Ph.D have been introduced to encourage faculty members to upgrade their qualifications.

5. Buddy and Mentorship Program: Special attention is required to be paid to weak students in a class to enable them to improve. The college has introduced a structured system whereby weak students are identified and paired with an academically bright buddy who helps him with his difficulties, assignments etc. Also good students of IV year conduct doubt clearing classes for selected difficult subjects for the junior students of II and III years. These programs have helped in improving the pass percentage and bringing up weak students.

6. Pre-University Test (PUT): As per the university norms of UPTU, colleges are required to conduct two internal exams every semester. To improve the performance of students, our college has introduced an additional full syllabus pre- university exam at the end of each semester. The question papers of the pre-university exams are on the lines of university exams. With the introduction of this exam there has been a marked improvement in the university exam results.

7. Model Solutions: Faculty members make model solutions for the question papers of all the three internal exams as well as the end semester university exams. These solutions are made available to students in the central library. Students are allowed to take copies of the solutions. This has curtailed the tendency of students referring to non standard books and has significantly improved the performance of students in exams.

7.2   Provide the Action Taken Report (ATR) based on the plan of action decided upon at the beginning of the year

(a) Improving the Employability of Graduates

Employability may be defined as 'a set of skills, knowledge and personal attributes that makes an individual more likely to secure and be successful in the chosen occupation to the benefit of the individual, the workforce, the community and the economy.'

Various programs proposed to be initiated to improve the Employability of Graduates.

The College have started regular interaction with a wide spectrum of industries to assess the competencies and skill sets required by them. These interactions coupled with regular feed back from alumni and employers will be used to formulate industry relevant courses that will be used to supplement the curriculum teaching initially and subsequently integrated in the curriculum after getting autonomous status.

In addition to aligning the curriculum with industry needs, steps have taken to improve the academic standard through induction of qualified and experienced faculty, faculty development programs to improve teaching methodology, refined teaching learning process, rational and continuous evaluation schemes and provision of a conducive environment for all students to realize their full potential. These steps are expected to improve professional competence and hence employability.

Employability Enhancement Training Program (EETP) for 3rd Year B.Tech. (ECE) students was conducted under AICTE - BSNL MoU. The objective of this program is to provide competency based employability enhancement skills and hands-on skill training through BSNL Training Centers. This

program is divided into three certification courses namely Silver (5thSemester), Gold (6th Semester) and Platinum (7th Semester).

The training areas cover vast spectrum of topics such as Digital Switching and IN; Mobile Communication: GSM, 3G, CDMA; Data communication and Information Technology: MPLS, VPN, Broadband, IPv6, Database Administration, Server Administration, IT Security; Optical Networks: SDH, DWDM, NGSDH, NGN, Access Networks, Management, Telecom Finance, and Telecom Network Planning.

A Program on MATLAB is conducted by ORANE LAB, SIIC, IIT KANPUR, A division of Orane Infosystem Pvt. Ltd. The course covers the theoretical and practical aspects of Advanced MATLAB and Simulink. This is useful for the students of B.Tech. 2nd and 3rd year.

Big Data Centre of Excellence established at college provides opportunities to B.Tech / M.Tech / Research scholars for their project works in this most upcoming technology.

AKGEC is making constant efforts towards the growth and development of students as future technocrats, by providing ample opportunities for industry interactions to bridge the gap between academics and industry requirements. In persistence with this pursuit, AKGEC started the Microsoft IT Academy (MSITA) at its campus under the ageis of the Department of Computer Science & Engineering. The college is an authorized Microsoft IT Academy Program Member.

Research and Industrial Consultancy Centre (RICC) has been established in the college to promote and extend industrial consultancy & R&D services as per their needs. RICC conducts the various training and short term courses in the field of Computer Aided Design and Computer Aided Engineering Softwares like AutoCAD, Pro/Engineer and ANSYS for the students of AKGEC, other institutes and Industrial professionals under the RICC Education Program.

(b) Increased Learning Outcome of the Students

The value addition and learning outcome achieved in a course depends on resources like suitable laboratories with requisite equipment, Library resources and well qualified faculty as well as on the teaching learning process which includes delivery of syllabus and beyond the syllabus content, continuous evaluation procedure, motivational and incentive scheme and continuous improvement through action on student feedback. All these factors are to be systematically improved to increase the learning outcome of students. The college has taken following specific steps to improve the learning outcome.

(a) Upgradation of existing laboratories and experimental set-ups for proper conduct of curriculum as well as beyond curriculum experimentation and project activities.

(b) Inducting highly qualified and experienced faculty as well as initiating faculty development and other continuing education programs to upgrade their knowledge and teaching methodology.

(c) Modifying the evaluation process to include both formative and summative evaluation to ensure not just graded assessment of students but also to facilitate improvement in their performance. The evaluation process will also ensure complete fairness and transparency through disclosure to students.

(d) The teaching learning process is proposed to be made more student-centric. The following steps are proposed for formulating an effective process and control mechanism.

(i) Formulation of and adherence to detailed academic calendar including specified times for conduct, evaluation and display of assignments, class-test, sessional test, project presentation and seminars.

(ii) Adherence to lecture wise schedule to ensure uniform and timely coverage of course with adequate time for its absorption.

(iii) Generation of question banks and model answers to question papers to aid learning process.

(iv) Structured conduct of quizzes, class tests, session-tests, viva-voce, etc., with pre-determined weightages to facilitate continuous learning.

(v) Close monitoring of student attendance and performance followed by appropriate counseling/ guidance to overcome the weakness.

(vi) Regular conduct of tutorials and interactive sessions for better involvement and encouragement to problem solving ability.

(vii) Regular monitoring of faculty's teaching performance by HoDs and guidance to junior faculty for overcoming deficiency/ weakness.

(e) Special efforts will be made to identify weak students at an early stage and help them to improve their performance through regular extra coaching, peer-to-peer learning schemes like mentorship and buddy programs etc.

(f) Regular initial stage, intermediate and exit stage feedback is proposed to be taken from students for each course. This will be analyzed and used by HoDs to improve faculty performance through guidance and counseling.

The above specific measures are expected to significantly improve the teaching learning process thereby increasing the learning outcome and competence of students. The increased learning outcome will result in better pass percentage, improved performance of individual student as well as increased satisfaction and motivation level of students.

7.3 Give two Best Practices of the institution *(please see the format in the NAAC Self-study Manuals)*

*Provide the details in annexure (annexure need to be numbered as i, ii,iii)

Best Practices (A)

1. **Title of Practice** : Industrial collaboration for improving student employability.

2. **Goal :** To provide industry relevant training, and other skill sets to students to make them globally competitive and employable in eminent high technology multinational industries.

3. **The context** : The biggest challenge facing engineering education and institutions today is the poor level of employability of graduating students. The primary reason for this, other than the poor quality of education, is the complete disconnect between industry and academic institutions, both of which have been operating in separate isolated domains. This has lead to the academic curriculum and teaching being inadequate in meeting the industry requirement.

There is a definite and urgent need for close collaboration between academic institutions and industries so that the graduating students have the potential to be gainfully employed and can positively contribute to industrial production and growth. This collaboration needs to be at many levels ranging from updation of curriculum, establishment of state-of-art laboratories for skill upgradation of students, backward integration for reducing training resources of industries, to joint application oriented research and development.

4. **The Practice** : The college has taken cognizance of this urgent need for improving employability of students through close collaboration with industries. Providing industry relevant training and skills have been made a KRA in the college and concerted efforts have been made to improve the employability of graduating students. Some of the efforts made in this direction are briefly described here.

(a) **Establishment of Industrial Centres of Excellence:** The college has collaborated with a number of eminent multinational industries to establish various centres of excellence. These centres include Industrial Robotic Training Centre in Collaboration with Kuka Robotics of Germany, NI-LabView Academy in collaboration with National Instruments, Centre of Competence in Automation Technologies in collaboration with Bosch Rexroth, Industrial Pneumatic knowledge Centre in collaboration with Janatics, PLM Centre of Excellence in collaboration with Siemens and an Integrated Automation Centre in collaboration with Pepprl & Fuchs. These centres provide industry relevant trainings in various multidisciplinary technologies at various levels from basic to expert with internationally recognized certifications. The centres also promote industry sponsored project and development activities.

(b) **Co-curricular Industry Relevant Programs:** With a view to bridge the gap between industry requirement and academic curriculum, the college has started many curricular training programmes conducted by competent authorized organizations. These programs are conducted after working hours or on week ends and train the students to be suitable for industry requirement. The college has a Microsoft Academy preparing students for Microsoft Certification, Networks Academy to train students for CCNA & CCNP certification and a Java Academy. The college also conducts training in various Computer Aided Design (CAD) packages like Pro-E and Catia.

(c) **Infosys Campus Connect Program :** The college conducts this program in collaboration with Infosys to prepare its students for absorption in a range of Software and IT industries. The training is conducted by faculty members trained by Infosys and arranged for selected students on week ends.

(d) **Personality Development Program :** Communication and other soft skills are an integral part of holistic education required for all round development of students. Soft skills also play an important role in improving the employability of students. In consideration of these factors, the college has introduced well structured 100 hours Personality Development Programme conducted by a professional agency. This program is conducted on week ends and is compulsory for all II year students of the college.

5. <u>Evidence of Success</u>: The above initiatives and measures taken by the college to bridge the gap between industry requirements and academic curriculum have paid very rich dividends in improving the employability of students. The college placements have been steadily improving in terms of number of companies coming to campus, number of students employed as well as quality of placements. It is noteworthy that the college placements did not decline even during the total recessionary phase the country's economy and industry passed through.

6. <u>Problem Encountered & Resources Required</u>: The curriculum being fixed for four years by the university has posed a constraint in dynamically modifying and updating it to suit the changing industry needs. However, the college has effectively overcome this constraint by introducing industry relevant training programs as co-curricular courses conducted for students after working hours, on week ends and during summer / winter holidays. The establishment of so many state-of-art centers of Excellence equipped with the training set-ups and facilities being presently used in industry required huge funds. Since the college could not afford such expenditure from its resources generated through tuition fees, long term collaborations have been established with industries. Under these collaborations the facilities have been set up by these industries as partners of the college at very nominal subsidized costs. The centres are being operated with the support and in co-ordination with these industries in a manner that they prove to be mutually beneficial to both in the long run.

Best Practices (B)

1. <u>Title of Practice:</u>

Improving Teaching Learning Process for better Academic Standards

2. <u>Goal :</u>

To cerate a student -centric learning environment and systems to enable students to realize their full potential and graduate with adequate professional competence required by the present day technologically advanced multinational industry.

3.<u>The Context :</u>

With the swift growth in engineering education, the quality and academic standards have suffered. The poor quality and professional competence of engineering graduates has lead to increasing unemployment. The quality of graduating students is related to the intake spectrum or entry level competence, as well as the quality of physical and human resources deployed by the institution. The college has persistently focused on these factors and tried to create student centric learning systems and processes to improve the

professional competence of students across the entire spectrum starting from weakest to the brightest student.

4. **The Practice :**

The college has focused and attempted to address all factors and facets of academic activity that have an impact on quality and standard. As regards physical resources, the college has provided well equipped and adequate class rooms, laboratories, library and other resources required for excellence. Towards human resource, the merit based admission policy has ensured a good spectrum of students in college. The recruitment policy of the college has lead to selection and retention of highly qualified, experienced and devoted faculty providing maximum value addition to students. A number of innovative academic systems have been introduced to improve the academic learning and performance of students. These include introduction of Quizzes / class tests to improve continuous learning; introduction of additional Pre-University Test to give a real-time practice for final University exam; a series of incentives and awards for attendance, sessional performance etc. to keep students motivated. Efforts have been made to identify and pay special attention to weak students by way of engaging them with bright students though buddy program and providing extra doubt clearing sessions through the mentorship program.

5.**Evidence of Success :**

The above mention concerted, focused and persistent efforts have resulted in significant improvement in quality and academic standard of students. At the lower level of weak students, the failure rates have reduced significantly and the college has been having the best results in terms of pass percentages. The overall quality improvement is evident from the high class averages and a large number of students of the college featuring in University merit lists. The college has consistently maintained itself in the highest category of $\alpha+3\sigma$ of the University Comparative Gross Average Intellectual Attainment Chart.

6.**Problems Encountered & Resources Required**

The improvement in physical infrastructure as well as retention of highly qualified and experienced faculty has necessitated additional funding. With the limitation of its income though academic fees being fixed by the State Govt., the college had to resort to borrowing from bank to meet the requirement. At the working level the usual problems of resistance to change and absorption of new systems have been overcome through regular briefings and discussions to ensure that these are implemented wholeheartedly with conviction.

7.4 Contribution to environmental awareness / protection

College has strong sense of responsibility towards environment awareness and Several cross cutting issues such as climate and environment awareness are given ample of weightage. University has introduced compulsory subjects such as Environment and Ecology in the curriculum to sensitize students on these burning issues.

7.5 Whether environmental audit was conducted?   Yes ☐   No ☑

7.6 Any other relevant information the institution wishes to add. (for example SWOT Analysis)

SWOT Analysis:

The SWOT analysis presented here has been carried out based on extensive discussions and brain storming with the Students, faculty, staff, parents and some industries that regularly employ students from the college through Campus placements. A core team comprising Heads of Engineering Departments, senior functionaries from the Administrative staff and three students from each year was formed. The team had several rounds of discussions to identify and list key issues and ideas in each of the categories. These were then presented to and discussed with some industry partners and parents. The finalized lists were appropriately framed and analyzed by the core Team. The key Strengths, Weaknesses, Opportunities and Strengths are summarized below:

Strengths:

- Honest and ethical organization with clearly defined mission and policies directed towards academic excellence.

- Good academic resources, processes and systems indicated by consistently good performance of students in University exams culminating in the institution being the recipient of Academic Excellence Award for best engineering college in UPTU, for two consecutive years.

- Capability to undertake training, research and product development in selected emerging technologies, being the first institution in U.P. to have received approval from the Department of Science & Technology (DST) Govt. Of India, for the establishment of Centre of Relevance and Excellence (CORE) in the field of Industrial Automation & Robotics.

- Professional management and well defined organizational structure with adequate autonomy, decision making and financial powers vested in the Director for efficient functioning.

- Well defined, uniform and transparent academic and administrative systems providing high degree of satisfaction, motivation and good working environment to its faculty, staff and students.

- Well qualified, experienced, stable and committed faculty, with most senior members being alumni or ex-faculty from IITs providing impetus for faculty development and growth.

- Excellent Infrastructural facilities with state-of-the art well equipped labs, interactive Satellite (EDUSAT) terminal, well stocked library with e-journals and a Wi-Fi campus for imparting quality technical education.

- Emphasis on industry relevant activities like INFOSYS Campus Connect Programs, Personality Development Programmes and CAD Courses for improved employability of students.

- Experience in conducting post graduate programmes for the last five year with four M.Tech programmes currently running in the institution.

Weaknesses:

- Although the institution has well qualified and experienced faculty, it requires more PhDs so that they can contribute more in their relevant area of expertise at various levels especially for strengthening post graduate programs and promoting R&D activities.

- Lengthy and slow process for curriculum revisions and modifications due to multiple levels upto the Board of Studies at University level. Consequently the institution is not able to keep pace with fast changing technology and global standards.

- Lack of flexibility in academic systems and evaluation process for reforms and improvements since the University conducts its own external theory and practical examination for all affiliated colleges.

- Inability to support large number of Post Graduate Programmes and significant in-house R&D activities due to fund constraints faced by most unaided self financed institutions.

Opportunities:

- Being the top ranked Engineering institution in U.P., the College is poised to benefit with the input of the best students of the state facilitating implementation of academic reforms and improved standards.

- The increasing realization of need for industry ready professionals by corporates is expected to increase industry-academia collaboration in curriculum design, student training and other employability enhancement programmes.

- The growth and success of M.Tech programmes due to increased demand for faculty and industry positions is soon expected to give rise to PhD programmes with a number of research Scholars working in diverse fields in the college.

- With increased number of M.Tech and PhD programmes the college can expect to get significant consultancy projects from industry, leading to better finance availability to further fund in-house R&D activity.

Threats:

- Rigid policies and control by regulatory bodies with little flexibility and autonomy are likely to be severe constraints in growth and achieving high degree of excellence.

- Increasing number of academic institutions are likely to aggravate problems in availability of highly qualified faculty, unless the teaching profession is perceived as more challenging and rewarding.

- Entry of foreign Universities with better funding and fewer regulatory restrictions may lead to unfair competition environment leading to further reduction of resources for self financed institutions, unless these institutions are also permitted freedom to develop alternate strategies.

- Further growth in multinational and highly rewarding corporate careers are likely to make it difficult to retain high caliber professionals and motivate them towards teaching and research.

8. Plans of institution for next year

(i) Starting Ph.D. Programme in Electronics Stream.
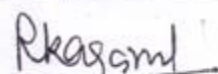(ii) Increasing Industry Academia Relations.

Name: Dr. P.K. Chopra

Signature of the Coordinator, IQAC

Name:Dr. R.K. Agarwal

Signature of the Chairperson, IQAC

AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD
B.TECH. AND MCA ACADEMIC CALENDAR ODD SEMESTER 2017-18

S.No.	Activity	Date	Day
1	Registration of III/V/VII Semester	17-18 Jul 17	Mon - Tue
2	**Commencement of III/V/VII Semester Classes**	19 Jul 17	Wed
3	Registration of I Sem. / III Sem. Lateral Entry	29-Jul-17	Sat
4	Orientation Program for Newly Admitted Students	31 Jul -05 Aug 17	Mon - Sat
5	**Commencement of I Semester Classes**	8-Aug-17	Tues
6	Sessional Test- I (III, V, VII Sem) : 1 hr duration	14, 16 ,17 Aug 17	Mon-Wed-Thurs
7	Last date of distribution of Answer Script of ST-I	21 Aug 17	Mon
8	Class Tests -I (only I Sem)	23-26 Aug 17	Wed- Sat
9	Last Date of Submitting Admission List of Newly Admitted Students.	31 Aug 17	Thurs
10	Sessional Test- I (I Sem) : 1 hr duration	4-6 Sep 17	Mon-Wed
11	Last date of distribution of Answer Script of ST-I (I Sem)	9-Sep-17	Sat
12	Submission of Examination Form with Examination Fee of Old Students	15 Sep 17	Fri
13	Submission of Enrollment Form with Exam. and other related Fee of Newly Admitted Students.	20 Sep 17	Wed
14	Submission of Enrollment Form with Exam. and other related Fee of Newly Admitted Students with Late Fee of Rs. 1000/- per student	28 Sep 17	Thurs
15	Last date for submission of Exam Forms of old students with Fine of Rs. 1000/-per student	28 Sep 17	Thurs
16	Sessional Test II (I, III, V, VII Sem): 02 hrs duration.	11 to 14 Oct 17	Wed - Sat
17	Last Date of Distribution of Answer Scripts of ST-II	23 Oct 17	Mon
18	Class Tests -II (only I Sem)	30 Oct - 02 Nov	Mon - Thurs
19	Pre-University Test (03 hrs duration)	20-30 Nov 17	Mon - Thurs
20	Last Day For Submission of Sessional Marks	01 Dec 17	Fri
21	End Semester Theory Examination	06- Dec- 24 Dec 17	Wed - Sun
22	End Semester Practical Examination	26 Dec 17 - 03 Jan 18	Tues - Wed
23	Evaluation of Answer Books	24 Dec 17 - 14 Jan 18	Sun - Sun
24	Winter Vacation	04 Jan - 14 Jan 18	Thurs - Sun
25	Registration of All Classes For Even Semester	15 Jan 18	Mon
26	**Commencement of Even Semester Classses**	16 Jan 18	Tues

(Dr. R.K. Agarwal)
Director