Guidelines for the Creation of the

Internal Quality Assurance Cell (IQAC) and Submission of Annual Quality Assurance Report (AQAR) in Accredited Institutions

(Revised in October 2013)

2016-2017

राष्ट्रीय मूल्यांकन एवं प्रत्यायन परिषद्

विश्वविद्यालय अनुदान आयोग का स्वायत्त संस्थान

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL
An Autonomous Institution of the University Grants Commission
P. O. Box. No. 1075, Opp: NLSIU, Nagarbhavi, Bangalore - 560 072 India

NAAC

VISION

To make quality the defining element of higher education in India through a combination of self and external quality evaluation, promotion and sustenance initiatives.

MISSION

- *To arrange for periodic assessment and accreditation of institutions of higher education or units thereof, or specific academic programmes or projects;*

- *To stimulate the academic environment for promotion of quality of teaching-learning and research in higher education institutions;*

- *To encourage self-evaluation, accountability, autonomy and innovations in higher education;*

- *To undertake quality-related research studies, consultancy and training programmes, and*

- *To collaborate with other stakeholders of higher education for quality evaluation, promotion and sustenance.*

Value Framework

To promote the following core values among the HEIs of the country:

- *Contributing to National Development*
- *Fostering Global Competencies among Students*
- *Inculcating a Value System among Students*
- *Promoting the Use of Technology*
- *Quest for Excellence*

Contents

_____

Document revised by: Dr. Ganesh Hegde, Deputy Adviser and B. S. Ponmudiraj, Deputy Adviser, NAAC

Guidelines for the Creation of the
Internal Quality Assurance Cell (IQAC)
and Submission of Annual Quality Assurance Report (AQAR)
in Accredited Institutions

Introduction

In pursuance of its Action Plan for performance evaluation, assessment and accreditation and quality up-gradation of institutions of higher education, the National Assessment and Accreditation Council (NAAC), Bangalore proposes that every accredited institution should establish an Internal Quality Assurance Cell (IQAC) as a post-accreditation quality sustenance measure. Since quality enhancement is a continuous process, the IQAC will become a part of the institution's system and work towards realisation of the goals of quality enhancement and sustenance. The prime task of the IQAC is to develop a system for conscious, consistent and catalytic improvement in the overall performance of institutions. For this, during the post-accreditation period, it will channelize all efforts and measures of the institution towards promotingits holistic academic excellence.

The guidelines provided in the following pages will guide and facilitate the institution in the creation and operation of the Internal Quality Assurance Cell (IQAC). The work of the IQAC is the first step towards internalization and institutionalization of quality enhancement initiatives. Its success depends upon the sense of belongingness and participation it can inculcate in all the constituents of the institution. It will not be yet another hierarchical structure or arecord-keeping exercise in the institution.It will be a facilitative and participative voluntary system/unit/organ of the institution. It has the potential to become a vehicle for ushering in quality enhancement by working out planned interventionist strategies to remove deficiencies and enhance quality like the"Quality Circles" in industries.

Objective
The primary aim of IQAC is

- To develop a system for conscious, consistent and catalytic action to improve the academic and administrative performance of the institution.

- To promote measures for institutional functioning towards quality enhancement through internalization of quality culture and institutionalization of best practices.

Strategies
IQAC shall evolve mechanisms and procedures for
   a) Ensuring timely, efficient and progressive performance of academic, administrative and financial tasks;

b) The relevance and quality of academic and research programmes;

c) Equitable access to and affordability of academic programmes for various sections of society;

d) Optimization and integration of modern methods of teaching and learning;

e) The credibility of evaluation procedures;

f) Ensuring the adequacy, maintenance and proper allocation of support structure and services;

g) Sharing of research findings and networking with other institutions in India and abroad.

Functions
Some of the functions expected of the IQAC are:

a) Development and application of quality benchmarks/parameters for various academic and administrative activities of the institution;

b) Facilitating the creation of a learner-centric environment conducive to quality education and faculty maturation to adopt the required knowledge and technology for participatory teaching and learning process;

c) Arrangement for feedback response from students, parents and other stakeholders on quality-related institutional processes;

d) Dissemination of information on various quality parameters of higher education;

e) Organization of inter and intra institutional workshops, seminars on quality related themes and promotion of quality circles;

f) Documentation of the various programmes/activities leading to quality improvement;

g) Acting as a nodal agency of the Institution for coordinating quality-related activities, including adoption and dissemination of best practices;

h) Development and maintenance of institutional database through MIS for the purpose of maintaining /enhancing the institutional quality;

i) Development of Quality Culture in the institution;

j) Preparation of the Annual Quality Assurance Report (AQAR) as per guidelines and parameters of NAAC, to be submitted to NAAC.

Benefits
IQAC will facilitate / contribute

a) Ensure heightened level of clarity and focus in institutional functioning towards quality enhancement;

b) Ensure internalization of the quality culture;

b) Ensure enhancement and coordination among various activities of the institution and institutionalize all good practices;

c) Provide a sound basis for decision-making to improve institutional functioning;

d) Act as a dynamic system for quality changes in HEIs;

e) Build an organised methodology of documentation and internal communication.

Composition of the IQAC

IQAC may be constituted in every institution under the Chairmanship of the Head of the institution with heads of important academic and administrative units and a few teachers and a few distinguished educationists and representatives of local management and stakeholders.

The composition of the IQAC may be as follows:
1. Chairperson: Head of the Institution

2. A few senior administrative officers

3. Three to eight teachers

4. One member from the Management

5. One/two nominees from local society, Students and Alumni

6. One/two nominees from Employers /Industrialists/stakeholders

7. One of the senior teachers as the coordinator/Director of the IQAC

The composition of the IQAC will depend on the size and complexity of the institution. It helps the institutions in planning and monitoring. IQAC also gives stakeholders or beneficiaries a cross-sectional participation in the institution's quality enhancement activities. The guidelines given here are only indicative and will help the institutions for quality sustenance activities.

The membership of such nominated members shall be for a period of two years. The IQAC should meet at least once in every quarter. The quorum for the meeting shall be two-third of the total number of members. The agenda, minutes and Action Taken Reports are to be documented with official signatures and maintained electronically in a retrievable format.

It is necessary for the members of the IQAC to shoulder the responsibilities of generating and promoting awareness in the institution and to devote time for working out the procedural details. While selecting these members several precautions need to be taken. A few of them are listed below:

⁍ It is advisable to choose persons from various backgrounds who have earned respect for integrity and excellence in their teaching and research. Moreover, they should be aware of the ground realities of the institutional environment. They should be known for their commitment to improving the quality of teaching and learning.

⁍ It would be appropriate to choose as senior administrators, persons in charge of institutional services such as library, computer center, estate, student welfare, administration, academic tasks, examination and planning and development.

- The management representative should be a person who is aware of the institution's objectives, limitations and strengths and is committed to its improvement. The local society representatives should be of high social standing and should have made significant contributions to society and in particular to education.

The role of coordinator

The role of the coordinator of the IQAC is crucial in ensuring the effective functioning of all the members. The coordinator of the IQAC may be a senior person with expertise in quality aspects. She/he may be a full-time functionary or, to start with, she/he may be a senior academic /administrator entrusted with the IQAC as an additional responsibility. Secretarial assistance may be facilitated by the administration. It is preferable that the coordinator may have sound knowledge about the computer, its various functions and usage for effective communication.

Operational Features of the IQAC

Quality assurance is a by-product of ongoing efforts to define the objectives of an institution, to have a work plan to achieve them and to specify the checks and balances to evaluate the degree to which each of the tasks is fulfilled. Hence devotion and commitment to improvement rather than mere institutional control is the basis for devising procedures and instruments for assuring quality. The right balance between the health and growth of an institution needs to be struck. The IQAC has to ensure that whatever is done in the institution for "education" is done efficiently and effectively with high standards. In order to do this, the IQAC will have to first establish procedures and modalities to collect data and information on various aspects of institutional functioning.

The coordinator of the IQAC and the secretary will have a major role in implementing these functions. The IQAC may derive major support from the already existing units and mechanisms that contribute to the functions listed above. The operational features and functions discussed so far are broad-based to facilitate institutions towards academic excellence and institutions may adapt them to their specific needs.

Monitoring Mechanism

The institutions need to submit yearly the Annual Quality Assurance Report (AQAR) to NAAC. A functional Internal Quality Assurance Cell (IQAC) and timely submission of Annual Quality Assurance Reports (AQARs) are the Minimum Institutional Requirements (MIR) to volunteer for second, third or subsequent cycle's accreditation. During the institutional visit the NAAC peer teams will interact with the IQACs to know the progress, functioning as well quality sustenance initiatives undertaken by them.

The Annual Quality Assurance Reports (AQAR) may be the part of the Annual Report. The AQAR shall be approved by the statutory bodies of the HEIs (such as Syndicate, Governing Council/Board) for the follow up action for necessary quality enhancement measures.

The Higher Education Institutions (HEI) shall submit the AQAR regularly to NAAC. The IQACs may create its exclusive window on its institutional website and regularly upload/ report on its activities, as well as for hosting the AQAR.

The NAAC Accredited institutions need to submit only the soft copy as word file (.doc/.docx) through e-mail (capuaqar@gmail.com). The file name needs to be submitted with Track ID of the institution and College Name. For example MHCOGN16601-Samudra Arts and Science College, Taliamegu-Maharashtra.doc or EC_32_A&A_143 dated 3-5-2004-Samudra Arts and Science College, Taliamegu-Maharashtra.doc. The Higher Education Institutions need not submit the printed/hard copy to NAAC. The acknowledgements would be sent to the institutions through e-mail.

Mandatory Submission of AQAR by IQAC

So far submission of AQARs was not a Mandatory requirement for Institutions applying to NAAC 2nd and subsequent cycles of Assessment and Accreditation (A&A).It has now been decided by the Executive committee of NAAC that **regularsubmission of AQARs should be made mandatory for 2nd and subsequent cycles of accreditation.**

In view of the decision of **Executive Committee of NAAC** the following will be the pre-requisites for submission of LOI for all Higher Education Institutions (HEIs) opting for 2nd and subsequent cycles of A&A**with effect from 16th September 2016**:

➡ Having a functional IQAC.
➡ The minutes of IQAC meeting and compliance to the decisions should be uploaded on the institutional website.
➡ Mandatory submission of AQARs on a regular basis for institutions undergoing the second and subsequent cycles of Assessment and Accreditation by NAAC.
➡ Upload the AQAR's on institutional website for access to all stakeholders.

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

AQAR for the year *(for example 2013-14)*

2016-17

1. Details of the Institution

1.1 Name of the Institution

Narula Institute of Technology

1.2 Address Line 1

81, Nilgunj Road,

Address Line 2

Agarpara

City/Town

Kolkata

State

West Bengal

Pin Code

700109

Institution e-mail address

info@nit.ac.in

Contact Nos.

033-2563 7777/8888

Name of the Head of the Institution:

Prof. (Dr.) Maitreyi Ray Kanjilal

Tel. No. with STD Code:

033-25637777

Mobile: 9433035580

Name of the IQAC Co-ordinator: Dr. Sandip Chanda,

Dr. Rupa Bhattacharyya

Mobile: 9836921589, 9830225129

IQAC e-mail address: iqac_nit@jisgroup.org

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

OR

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- botto
  of your institution's Accreditation Certificate)*

EC(SC)/04/A&A/05 dated December 10, 2014

1.5 Website address: www.nit.ac.in

Web-link of the AQAR:

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	2.43	2014	5Yrs
2	2nd Cycle				
3	3rd Cycle				
4	4th Cycle				

1.7 Date of Establishment of IQAC :   DD/MM/YYYY   03.01.2012

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

> 2016-17

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 _____AQAR2015-2016__submitted on __ (08/08/2016)
   ii. AQAR_____ _NA_____ (DD/MM/YYYY)
   iii. AQAR_____ __NA_____ (DD/MM/YYYY)
   iv. AQAR_____ __NA_____ (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)   . MCA and Diploma

1.12 Name of the Affiliating University *(for the Colleges)*

> Maulana Abul Kalam Azad University of Technology (MAKAUT) [formerly West Bengal University of Technology(WBUT)]

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

Autonomy by State/Central Govt. / University   √

University with Potential for Excellence   UGC-CPE

DST Star Scheme   UGC-CE

UGC-Special Assistance Programme   DST-FIST

UGC-Innovative PG programmes   Any other (*Specify*)

UGC-COP Programmes

2. IQAC Composition and Activities

2.1 No. of Teachers   15

2.2 No. of Administrative/Technical staff   1

2.3 No. of students   2

2.4 No. of Management representatives   1

2.5 No. of Alumni   2

2. 6 No. of any other stakeholder and

    community representatives   1

2.7 No. of Employers/ Industrialists   2

2.8 No. of other External Experts   1

2.9 Total No. of members   25

2.10 No. of IQAC meetings held (in 2016-17) ☐ 12

2.11 No. of meetings with various stakeholders (in 2016-17)No. ☐ 19 Faculty ☐ 24

Non-Teaching Staff Students ☐ 4 Alumni ☐ 2 Others ☐ 7

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. ☐ 2   International ☐   National ☐ √   State ☐   Institution Level ☐ √

(ii) Themes

| 1. Seminar on how to write a good paper. |
| 2. One Week Workshop on "Quality Assurance Parameters of NBA" |

2.14 Significant Activities and contributions made by IQAC

Activities of IQAC
- Intimation of quality assurance policies, mechanisms and outcomes to the various internal and external stakeholders.
- Establishing benchmarks for the departments and planning to achieve the same.
- Arrangement of training for faculty and staff to maintain quality of education in the institute.
- Encourage faculty and staff for research and development activity.
- Documentation of the various programmes/activities leading to quality improvement.
- Preparation of AQAR for the institute.
- Conveying meeting with the stake holders.
- To monitor and follow up the academic as well as activity calendar.

Contributions of IQAC
- Arrangement of In-house training programmes for the faculty members on pedagogy as well as domain knowledge and also to depute them outside.
- Arranging seminars, conferences and invited talk on research methodology and teaching learning.
- Monitoring and assessing the quality of education by preparation of Self Appraisal Report of NBA and NAAC.
- Preparation of AQAR of NAAC.

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
Learner centric approach in curriculum design: Under autonomous framework, every department/Stream/Subjects related to the Undergraduate and postgraduate courses of the Institute have its own Board of Studies (BOS) with Head of the Concerned Department as the Chairman and all the teachers of the Department as members. Two external experts nominated by the Academic Council, one representative from industry/corporate sector, and one University(Vice Chancellor) nominee are also the members of the BOS. Regular meeting of the BOS is being held .The curriculum of the UG and PG courses have been redefined based on need and feedback of the stakeholders and society. Accordingly, intradepartmental, interdepartmental meeting (in specific cases) has been organized to clarify objective and outcome of the respective courses, followed by meeting of BOS and Academic council. New course curriculum has been prepared keeping into account the existing curriculum of the reputed Institute, outcome of the course concerned and learners need about the course. A learner centric approach has been introduced in the revised curriculum. Consequently the syllabus of each subject has been prepared looking at the need of the industry and society. This revised curriculum has become operative from the session 2015-16.	Due to this modification of syllabus and curriculum, students are taking more interest in learning and attending classes. The attendance of students in the classes have been increased. The parents of the students have also reported improvement in the students during the year. The faculty members are also more enthusiastic on offering deliberations on their own designed curriculum and syllabus.
Outcome Based Syllabus Design: An outcome centric approach has been adopted and implemented in the designing of syllabus. Each department collects feedback from all stakeholders and	Both the faculty members and students are taking keen interest in this outcome based syllabus. The result of both odd

places the same in BOS meetings for discussion to develop the syllabus. The proposed syllabus is then again reviewed by academicians and industry experts as per the need of present job market and requirement for higher studies by external academicians and industry experts as per the need of present job market and requirement for higher studies.	and even semester 2016-2017 validates the fact.
Development of Online course ware: For the improvement of teaching learning, online courseware have been designed. Lesson plan is also given to the students prior to the commencement of the class to follow interactive teaching learning methodology.	Attendance and interaction in the class has been increased.
Organisation of quality improvement programmes: Numerous quality improvement programmes were organised on teaching learning, outcome based education, research methodology.	Faculty members took keen interest on these programmes. SAR of the departments has been prepared by them.
Arrangement of Faculty Training: Various faculty and staff training programmes were organised for motivating them towards excellence. Also training programme on specific subject have also been organised for the students.	Most of the faculty member and staff participated in these programmes and they are implementing the knowledge gained in their respective assignments. Students attended in-house and outside training programmes.
To create benchmark for the department: Each department was advised to establish their own benchmark.	Each departments has identified a benchmark for the department and they are working on it to meet up the gap.

* *Attach the Academic Calendar of the year as Annexure.*

Academic Calendar is available in Annexure II.

2.16 Whether the AQAR was placed in statutory body   Yes √   No ☐

Management ☐   Syndicate ☐   Any other body √

        Provide the details of the action taken

The AQAR was placed in the IQAC and BOG of the institute. After detailed discussion it has been advised to submit the AQAR within 31st July, 2017. The detailed action taken report has been presented in 7.2.

Part – B

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	00	00	00	00
PG	06	00	06	00
UG	07	00	07	00
PG Diploma	00	00	00	00
Advanced Diploma	00	00	00	00
Diploma	03	00	03	00
Certificate	0	0	0	0
Others	0	0	0	0
Total	16	00	16	00

Interdisciplinary				
Innovative				

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

Pattern		Number of programmes
Semester	√	16
Trimester	NA	
Annual	NA	

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
Specimen copies of Student ,Alumni, Parent and Employer is available Annexures 3,4,5, and 6 respectively.

Feedback System in Narula Institute of Technology

Every semester students across all disciplines give their online feedback on the teaching learning process existing in the college. Based on the feedback, we understand the lacuna of the faculty and accordingly the faculty goes through faculty development programmes/refresher course/workshop.

Specimen student feedback analysis is provided in the annexure.

Feedback is also taken from employers(As much as possible) and the following measures have been taken:

1. Different workshops based on relevant subjects are organised across all disciplines.
2. IIPC cell of the college takes initiative to bring industry personnel to bridge the gap between academics and industry perspectives.
3. Students get exposure to different technical fields relevant to their discipline through industry visit.
4. To motivate students in their endeavour , we organise project fair and exhibition.

Alumni feedback is taken into consideration to improve the academic atmosphere as well as other activities in the institute. Students get an opportunity to know about industry and also the problems faced by new entrants to the industry. Taking their suggestion, the college takes the initiative to organise different programmes for the students:

1. In the 5th ,6th and 7th semester quantitative aptitude , verbal ability and technical aptitude and soft skill training are conducted by in house faculty members as well as external experts , for the overall development of every B.Tech student.
2. Induction programmes are organised at the very beginning of the semester for the 1st year students to develop their professional attitude from the very beginning of their career. Different industry personnel, motivational speakers and spiritual Gurus are invited in the induction programmes to develop their maturity and attitude to life.
3. Different industry talks, seminars are organised on the recent technologies introduced in industries to keep them updated about technological advancement.

Specimen Alumni feedback analysis is provided in the annexure.

Parents of the students get an opportunity to give their manual feedback on the academic process followed in our college.Keeping in mind their suggestions, we have introduced different systems in our college form the administrative level and department level:

1. A very strong anti-ragging committee exists in our college, the committee members have a very clear observation on the activities of the students, thus we can claim that our college is " ragging free campus"
2. Disciplinary committee , hostel committee ,women's cell looks after each and every issue related to the students.
3. A very structured mentor scheme exists in every department for special care of every student of our college.
4. Along with academic growth , students also get an opportunity to unleash their latent potential through multifarious activities-cultural programmes, sports activities, environmental and community connect programmes and NSS activities.

Specimen Parents feedback analysis is provided in the annexure.

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

MCA Autonomous
Syllabus Upgradation Report

MCA MAKAUT New Syllabus		MCA Autonomous Syllabus		Remarks
1st Semester				
MCA102	Business Systems & Applications	MCA102	System Analysis & System Programming	No credit change
MM101	Discrete Mathematical Structures	MCA104	Discrete Mathematical Structures & Graph Theory	No credit change
MCA193	Programming Lab (C)	MCA193	C Language Lab	No credit change
2nd Semester				
MCA202	Information Systems Analysis & Design	MCA202	Software Engineering & TQM	No credit change
MCA203	Data Structures with C	MCA203	Data Structure & Algorithm	No credit change
MCA204	Data Base Management System I	MCA204	Operating System	No credit change
MCA205	Object-Oriented Programming With C++	MCA205	Statistical & Numerical Methods	No credit change
MCA293	Data structure lab	MCA293	Data Structure & Algorithm Lab	No credit change
MCA294	Database lab	MCA294	Operating System Lab	No credit change
MCA295	Object-Oriented Programming lab (C++)	MCA295	Statistical & Numerical Computing Lab	No credit change
		MCA280	*Technical communication*	*0 CREDITS (qualifying)*
3rd Semester				
MCA301	Operating Systems and Systems Software	MCA301	Unix and Shell Programming	No credit change
MCA302	Unix and Shell Programming	MCA302	Database Management System	No credit change

MCA303	Intelligent Systems	MCA303	Object-Oriented Programming using C++	No credit change
MM301	Statistics and Numerical Techniques	MCA304	Operations Research & Optimization Techniques	No credit change
MBA301 MBA302	Business Management Management Accounting	MBA301	Management & Accountancy	No credit change
MCA392	Unix lab	MCA391	Unix and Shell Programming Lab	No credit change
MM 391	Statistics and Numerical Analysis lab	MCA392	Database Management System Lab	No credit change
MBA392	Accounting Systems lab	MCA393	Object-Oriented Programming using C++ Lab	No credit change
		MCA380	Technical Seminar	*0 CREDITS (qualifying)*

<p align="center">4th Semester</p>

MCA401	Software Engineering & TQM	MCA401	Formal Language & Automata Theory	No credit change
MCA402	Graphics & Multimedia	MCA402	Computer Graphics & Multimedia	No credit change
MCA403	Data Base Management System II	MCA403	Programming With Java	No credit change
MM401	Operation Research & Optimisation Techniques	MCA404	Artificial Intelligence	No credit change
HU401	Environment and Ecology	HU401	Values & Ethics	No credit change
MCA491	Software Project Management lab	MCA492	Computer Graphics & Multimedia Lab	No credit change
MCA492	Graphics & Multimedia Lab	MCA493	Java Lab	No credit change
MCA493	Advanced Database lab	MCA494	Visual Basic Lab	*4 CREDITS*

<p align="center">5th Semester</p>

HU501	Values and Ethics of Profession	MCA501	Distributed System	4 CREDITS

MCA E501/A/B/C	Elective 1	MCA E501 A/B/C	Elective-1	No credit change
MCA E502/A/B	Elective 2	MCA E502 A/B/C	Elective-2	No credit change
MCA E503/A/B	Elective 3	MCA E503 A/B/C	Elective-3	No credit change
MCA E504/A/B	Elective 4	MCA E504 A/B/C	Elective-4	No credit change
MCA E592/A/B	Elective 2 Lab	MCA E592 A/B/C	Elective-2 Lab	3 CREDITS
MCA591	Minor project and seminar	MCA295	Minor Project & Seminar	6 CREDITS
		MCA590	Group Discussion	0 CREDITS
ELECTIVE COURSES				
	ELECTIVE 1	MCAE 501A	Network Security & Cryptography	
		MCAE 501B	Cloud Computing	
		MCAE 501C	Mobile Computing	
	ELECTIVE 2	MCAE 502A	Internet Technology Through .NET Framework	
		MCAE 502B	Advanced Java Technologies	
		MCAE 502C	XML and Databases	
	ELECTIVE 3	MCAE 503A	Compiler Design	
		MCAE 503B	Parallel Programming	
		MCAE 503C	Image Processing	
	ELECTIVE 4	MCA E 504 A	E Commerce and Cyber Law	
		MCA E 504 B	System Administration	
		MCA E 504 C	Enterprise Resource Planning	
6TH Semester				
MCA691	Major project and seminar	*MCA691*	Major Project & Seminar	No credit change

		MCA692	Grand Viva	*4 CREDITS*

Electronics and Communication Engineering

Syllabus for Basic Electronics, Circuit Theory & Networks, Solid State Devices, Analog Electronics and Signal Systems have been revised. Also syllabus for Basic Science subjects are revised.

Syllabus for above subjects are updated considering outcome based learning. Syllabus are revised emphasizing on numerical problems on related topics, competitive examinations, research and also on student employability in Industry .

Electrical Engineering

2nd Year 3rd Semester			
Theory			
Sl. No.	**Paper Name**	**Subject Code**	**Points Discussed**
1.	Mathematics III	M301	Outcome of this course should grow the ability to solve Electrical Engineering Problems.
2.	Digital Electronics	EC(EE)301	Credit point as per curriculum is 3 (L-T-P: 3-0-0). Refer to discussion 5 below.
3.	Analog Electronic Circuits	EC(EE)302	No Change.
4.	Circuits Theory And Networks	EE301	Fourier Series may be excluded from Circuit Theory syllabus as it is already included in Mathematics III syllabus and net contact hours to be adjusted from other Modules.
5.	Field Theory	EE 302	Module III may be reduced from 6 periods to 2 periods and Module V may be increased from 3 periods to 6 periods.
6.	Thermal Power Engineering	ME(EE)301	Contact hours to be reduced to maximum 24 instead of 29.
Practical			
1.	Analog & Digital Electronics lab	EC(EE)391	The titles of the lab should be Objective specific.
2.	Circuit Theory and Network Lab	EE391	The titles of the lab should be Objective specific.
3.	Thermal Power Engineering Lab	ME(EE)391	The titles of the lab should be Objective specific.
Sessional			
1.	Technical Skill Development	MC381	As the pre-requisite of the course has not been

| | | | taught to the students this subject may be interchanged with the Technical Report Writing. |

2nd Year 4th Semester

Theory

Sl. No.	Paper Name	Subject Code	Points Discussed
1.	Physics II	PH(EE)401	Outcome of this course should grow the ability to solve Electrical Engineering Problems.
2.	Electrical Machines I	EE401	Basic concept of winding to be incorporated in EE401.
3.	Electrical and Electronics Measurement	EE402	Credit point as per curriculum is 3 (L-T-P: 3-0-0). Refer to discussion 5 below.
4.	Numerical Methods	M(CS)401	Credit point as per curriculum is 2 (L-T-P: 2-0-0). Contact hours to be reduced to maximum 24 instead of 33. Outcome of this course should grow the ability to solve Electrical Engineering Problems.
5.	Data Structure	CS(EE)402	Syllabus Awaiting.

Practical

Sl. No.	Paper Name	Subject Code	Points Discussed
1.	Physics II Lab	PH(EE)491	No Change
2.	Electrical Machines-I Lab	EE491	The titles of the lab should be Objective specific.
3.	Electrical and Electronics Measurement Lab	EE 492	The titles of the lab should be Objective specific.
4.	Numerical Methods Lab	M(CS)491	Credit point as per curriculum is 1 (L-T-P: 0-0-2).
5.	Data Structure Lab	CS(EE)492	Syllabus Awaiting.
6.	Technical Report Writing & Language Practice	HU481	Syllabus Awaiting.

1. Electrical Machines for the stream Mechanical Engineering can be made Elective as they have already studied the basics of Electrical Machine in First Year.

2. The no. of hours subsequent to credit should be standard for the entire curriculum.

3. For 3 credit subjects, maximum no. of hours should be 36.
   For 4 credit subjects, maximum no. of hours should be 48.

Civil Dept

SUBJECT NAME: BUILDING MATERIAL AND CONSTRUCTION
SUBJECT CODE: CE303
SUBJECT HOURS/WEEK (L: T: P): (2:1:0)
CREDITS: 3
TOTAL CONTACT HOURS: 42

MODULE NO	NO OF LECTURES/HOURS	SYLLABUS FORMAT FOR AUTONOMY	CONTENT DELETED OR ADDED IN SYLLABUS	REMARKS
I	3	**Bricks:** Classification, Characteristics of good bricks, Ingredients of good brick earth, Harmful substance in brick Earth, Different forms of bricks, Testing of bricks as per BIS. Defects of bricks. Fly ash bricks	Fly ash bricks **added**	
	3	**Aggregates**: Classification, Characteristics, Deleterious substances, Soundness, Alkali – aggregates reaction, Fine aggregates, Coarse aggregates, Testing of aggregates		
	2	**Lime**: Impurities in limestone, Classification, Slaking and hydration, Hardening, Testing, Storage, Handling		
	3	**Cement:** OPC: Composition, PPC, Slag cement, Hydration, setting time **Concrete**: Types, ingredients, W/C ratio, Workability, Different grades in cement concrete, Tests on cement concrete		

MODULE NO	NO OF LECTURES/HOURS	SYLLABUS FORMAT FOR AUTONOMY	CONTENT DELETED OR ADDED IN SYLLABUS	REMARKS
II	3	**Mortars**: Classification, Uses, Characteristics of good mortar, Ingredients. Cement mortar, Lime mortar, Lime cement mortar, special mortars		
	3	**Wood and Wood Products**: Classification of Timber, Structure, Characteristics of good timber, Seasoning of timber, Defects in Timber, Diseases of timber, Decay of Timber, Preservation of Timber Testing of Timber, Veneers , Plywood, Fibre Boards, Particle Boards, Chip Boards , Black Boards, Button Board and Laminated Boards, Applications of wood and wood products		
	2	**Paints, Enamels and Varnishes**: Composition of oil paint, characteristic of an ideal paint, preparation of paint, covering power of paints, Painting: Plastered surfaces, painting wood, surfaces, painting metal Surfaces. Defects, Effect of weather, enamels, distemper, water wash and colour wash, Varnish , French Polish, Wax Polish		
	3	**Miscellaneous Materials**: Gypsum: Classification, Plaster of Paris, , Heat and sound insulating materials, Geo-synthetics	Gypsum wall Plasters, Gypsum Plaster Boards, Adhesives **deleted**	

MOD ULE NO	NO OF LECTU RES/H OURS	SYLLABUS FORMAT FOR AUTONOMY	CONTENT DELETED OR ADDED IN SYLLABUS	REMAR KS
III	4	**Foundations:** Function of Foundations, Essential requirement of good foundation, Different types of shallow and deep Foundations. Uses of Spread foundation, pile and well foundation.	Uses of Spread foundation, pile and well foundation **Added**	
	3	**Brick masonry:** Definitions, Rules for bonding, Type of bonds – stretcher bond, Header bond, English bond, Flemish Bond, Comparison of English Bond and Flemish Bond (one and one and half brick thick wall). Cavity wall	Cavity wall **added**	
	3	**Wall, Doors and Windows:** Load bearing wall, Partition wall, Reinforced brick wall Common types of doors and windows of timber and metal		

MOD ULE NO	NO OF LECTU RES/H OURS	SYLLABUS FORMAT FOR AUTONOMY	CONTENT DELETED OR ADDED IN SYLLABUS	REMAR KS
IV	4	**Stairs:** Technical Terms, Requirements of good stair, Dimension of steps, Classification, Geometric design of a dog legged stair case, Elevation and cross section of different type of stair cases.	Elevation and cross section of different type of stair cases **added**	
	4	**Flooring:** Components of a floor, selection of flooring materials, Brick flooring, Cement concrete flooring, mosaic, marble, Terrazzo flooring, Tiled roofing		
	3	**Plastering and Pointing:** Plastering with cement mortar, Defects in plastering, pointing, white washing, color washing, Distempering.		

	3	**Roofs:** Types, Pitched roofs and their sketches, Lean – to roof, coupled and collared roofs, King Post – Truss, Queen post truss and Simple steel Truss , Roof Covering materials: AC sheets GI sheet	Coupled and collared roofs **added**	

STREAM: CIVIL ENGINEERING
SUBJECT NAME: STRNGTH OF MATERIALS
SUBJECT CODE: CE302
SUBJECT HOURS/WEEK (L: T: P): (2:2:0)
CREDITS: 3
TOTAL CONTACT HOURS: 42

MOD ULE NO	NO OF LECTURE S'HOURS	SYLLABUS FORMAT FOR AUTONOMY	CONTENT DELETED OR ADDED IN SYLLABUS	REMAR KS
I	9	**Review of Basic Concepts of Stress and Strain**: Normal stress, Shear stress, Bearing stress, Normal strain, Shearing strain; Hooke's law; Poisson's ratio; Stress-strain diagram of ductile and brittle materials; Elastic limit; Ultimate stress; Yielding; Modulus of elasticity; Bulk Modulus: Factor of safety. Beam Statics: Support reactions, concepts of redundancy, axial force, shear force and bending moment diagrams for concentrated, uniformly distributed, linearly varying load, concentrated moments in simply supported beams, cantilever and overhanging beams	Bulk Modulus. **Added**	

MOD ULE NO	NO OF LECTU RES/H OURS	SYLLABUS FORMAT FOR AUTONOMY	CONTENT DELETED OR ADDED IN SYLLABUS	REMAR KS
II	13	**Symmetric Beam Bending:** Basic kinematic assumption, moment of inertia, elastic flexure formulae and its application, Bending and shear stress for regular sections, shear centre, centre of gravity	centre of gravity **added**	
		Deflection of statically determinate beams: Fundamental concepts: Elastic curve, moment Curvature relationship, governing differential equation, boundary conditions: Direct integration solution		

MOD ULE NO	NO OF LECTU RES/H OURS	SYLLABUS FORMAT FOR AUTONOMY	CONTENT DELETED OR ADDED IN SYLLABUS	REMAR KS
III	10	**Analysis of determinate plane trusses**: Concepts of redundancy, Analysis by method of joints, Method of sections.		
		Two Dimensional Stress Problems: Principal stresses, maximum shear stresses, Mohr's circle of stresses, construction of Mohr's circle, applications.	Applications **added.**	

MOD ULE NO	NO OF LECTU RES/H OURS	SYLLABUS FORMAT FOR AUTONOMY	CONTENT DELETED OR ADDED IN SYLLABUS	REMAR KS
IV	10	**Introduction to thin cylindrical & spherical shells**: Hoop stress and meridonial - stress and volumetric changes.		

Torsion: Pure torsion, torsion of circular solid shaft and hollow shafts, torsional equation, torsional rigidity, closed coil helical; springs		
Columns: Fundamentals, criteria for stability in equilibrium, column buckling theory, Euler's load for columns with different end conditions, limitations of Euler's theory – problems, eccentric load and secant formulae.		

STREAM: CIVIL ENGINEERING
SUBJECT NAME: SURVEYING -I
SUBJECT CODE: CE301
SUBJECT HOURS/WEEK (L: T: P): (2:1:0)
CREDITS: 3
TOTAL CONTACT HOURS: 36

MOD ULE NO	NO OF LECTUR ES/HOU RS	SYLLABUS FORMAT FOR AUTONOMY	CONTENT DELETED OR ADDED IN SYLLABUS	REMARKS
I	1	**Introduction:** Definition, classification of surveying, objectives, history of surveying, modern trends in surveying, principles of surveying.	history of surveying, modern trends in surveying **added**	3rd Sem Syllabus has been splitted in two sem (3rd & 4th) as the syllabus was too lengthy for one sem.

MOD ULE NO	NO OF LECTUR ES/HOU RS	SYLLABUS FORMAT FOR AUTONOMY	CONTENT DELETED OR ADDED IN SYLLABUS	REMARKS
II	8	**Chain surveying:** Chain and its types, optical square, cross staff. Reconnaissance and site location, locating ground features by offsets – field book. Chaining for	Triangulation and Traversing **added**	

MOD ULE NO	NO OF LECTUR ES/HOU RS	SYLLABUS FORMAT FOR AUTONOMY	CONTENT DELETED OR ADDED IN SYLLABUS	REMARKS
		obtaining the outline of structures, methods for overcoming obstacles, conventional symbols, plotting chain survey and computation of areas, errors inb chain surveying and their elimination problems. Triangulation and Traversing.		

MOD ULE NO	NO OF LECTUR ES/HOU RS	SYLLABUS FORMAT FOR AUTONOMY	CONTENT DELETED OR ADDED IN SYLLABUS	REMARKS
III	8	**Compass surveying:** Types of compasses, use and adjustments, bearings, local attraction and its adjustments. Chain and compass surveying of an area, booking and plotting. Adjustments of traverse, errors in compass surveying and precautions - problems.		

MOD ULE NO	NO OF LECTUR ES/HOU RS	SYLLABUS FORMAT FOR AUTONOMY	CONTENT DELETED OR ADDED IN SYLLABUS	REMARKS
IV	4	**Plane table surveying:** Equipment, leveling, orientation, different methods of survey, two and three point problems, errors and precautions.	three point problems **added**	

MOD ULE NO	NO OF LECTUR ES/HOU RS	SYLLABUS FORMAT FOR AUTONOMY	CONTENT DELETED OR ADDED IN SYLLABUS	REMARKS

MODULE NO	NO OF LECTURES/HOURS	SYLLABUS FORMAT FOR AUTONOMY	CONTENT DELETED OR ADDED IN SYLLABUS	REMARKS
V	8	**Leveling:** Introduction, basic definitions, leveling instruments and their features, temporary adjustment of levels, sensitiveness of bubble tube. Methods of leveling – differential, profile & fly leveling, cross sectional and reciprocal leveling. Effect of curvature and refraction, reducing errors and eliminating mistakes in leveling. Permanent adjustments of dumpy level. Modern levels –Tilting level, Automatic levels, precise levels. Plotting longitudinal sections and cross sections. Measurement of area and volume. Trignometrical Levelling	Permanent adjustments of dumpy level. Modern levels –Tilting level, precise levels; Trignometrical Levelling **added.**	

MODULE NO	NO OF LECTURES/HOURS	SYLLABUS FORMAT FOR AUTONOMY	CONTENT DELETED OR ADDED IN SYLLABUS	REMARKS
VI	4	**Contouring:** Topographic map, characteristics of contour, contour interval. Methods of locating contours, Interpolation of contours.	Measurement of area and volume from contour maps **added**	

MODULE NO	NO OF LECTURES/HOURS	SYLLABUS FORMAT FOR AUTONOMY	CONTENT DELETED OR ADDED IN SYLLABUS	REMARKS
VII	3	**Minor Instruments:** Clinometers, Planimeter (mechanical and digital)	**Minor Instruments:** Clinometers, Planimeter (mechanical and digital) **added**	

STREAM: CIVIL ENGINEERING
SUBJECT NAME: ENGINEERING GEOLOGY
SUBJECT CODE: CE304
SUBJECT HOURS/WEEK (L: T: P): (2:1:0)
CREDITS: 2
TOTAL CONTACT HOURS: 36

MOD ULE NO	NO OF LECTU RES/H OURS	SYLLABUS FORMAT FOR AUTONOMY	CONTENT DELETED OR ADDED IN SYLLABUS	REMARK S
1	2	**Geology and its importance in Civil Engineering**		
2	3	**_Mineralogy:_** Definition, internal and external structure of minerals, Classification and physical properties of minerals.	Study of crystals deleted	
3	4	**_Classification of rocks:_** a) Igneous rocks: Origin, mode of occurrence, forms & texture, classification and engineering importance. b) Sedimentary rocks: Process of sedimentation, classification and engineering importance. c) Metamorphic rocks: Agents and types of metamorphism, classification and engineering importance.		
4	2	**_Weathering of rocks:_** Agents and kinds of weathering, soil formation & classification based on origin.		
5	1	**_Geological work of rivers:_** Origin and stages in the system, erosion, transportation and deposition.		
6	4	**_Structural geology:_** Introduction to structural elements of rocks, dip & strike, definition, description, classification of folds, faults and joints, importance of geological structures in Civil Engineering.		
7	3	**_Earthquakes and seismic hazards:_** Causes and effects, seismic waves and seismographs, Mercelli's		

SL NO	NO OF LECTURES/HOURS	SYLLABUS FORMAT FOR AUTONOMY	CONTENT DELETED OR ADDED IN SYLLABUS	REMARKS
8	3	**_Engineering properties of rocks:_** Porosity, permeability, compressive strength, tensile strength and abrasive resistance.		
9	3	**_Rocks as construction materials:_** Qualities required for building and ornamental stones, foundations, concrete aggregate, railway ballast, road metal, pavement, flooring and roofing.		
10	4	**_Geophysical exploration:_** Methods of Geophysical Exploration, electrical resistivity method field procedure –sounding and profiling, electrode configuration, interpretation of resistivity data. Geophysical surveys in ground water and other Civil Engg. Projects.		
11	4	**_Applied Geology:_** Surface and subsurface geological and geophysical investigations in major Civil Engg. Projects. Geological studies of Dams and reservoir sites, Geological studies for selection of tunnels and underground excavations.		
12	3	**_Landslides:_** Types of landslides, causes, effects and prevention of landslides.		

STREAM: CIVIL ENGINEERING
SUBJECT NAME: STRENGTH OF MATERIAL LAB
SUBJECT CODE: CE391
SUBJECT HOURS/WEEK (L: T: P): (0:0:3)
CREDITS: 2
TOTAL CONTACT HOURS: 3/week

SL NO	NO OF LECTURES/HOURS	SYLLABUS FORMAT FOR AUTONOMY	CONTENT DELETED OR ADDED IN SYLLABUS	REMARKS
1		**Tension test on Structural Materials:** Mild Steel and Tor steel (HYSD bars)		

2		**Compression Test on Structural Materials**: Timber, bricks and concrete cubes		
3		**Bending Test on** Mild Steel/Tor Steel	Tor Steel **added**	
4		**Torsion Test** on Mild Steel Circular Bar		
5		**Hardness Tests on Ferrous and Non-Ferrous Metals**: Brinnel and Rockwell Tests		
6		**Impact Test**: Izod and Charpy	Demonstration of Fatigue Test **deleted**	

STREAM: CIVIL ENGINEERING
SUBJECT NAME: ENGINEERING GEOLOGY LAB
SUBJECT CODE: CE392
SUBJECT HOURS/WEEK (L: T: P): (0:0:3)
CREDITS: 2
TOTAL CONTACT HOURS: 2/week

SL NO	NO OF LECTURES/HOURS	SYLLABUS FORMAT FOR AUTONOMY	CONTENT DELETED OR ADDED IN SYLLABUS	REMARKS
1		Identification of Rocks and Minerals [Hand Specimens]	Study of crystals with the help of crystal models **deleted.**	
2		Identification of Rocks and Minerals [Hand Specimens]		
3		Study of Geological maps, interpretation of geological structures		
4		Thickness problems, Borehole problems		

CSE Department

			MAKAUT						Proposed					
S. N	Paper Code	Paper Name	Contact Periods/ Week			Cr	CH	REMARKS	Paper Code	Paper Name	Contact Periods/ Week			Cr	CH	REMARKS

S.N	Paper Code	Paper Name	L	T	P	Cr	CH	REMARKS	Paper Code	Paper Name	L	T	P	Cr	CH	REMARKS
1.	**HU101**	ENGLISH LANGUAGE & TECHNICAL COMMUNICATION	2	0	0	**2**	2	**Change in nomenclature (not in paper code). Content same except in inclusion of 2 short stories, a poem and an essay.**	HU 101	Communicative English	2	0	0	2	2	
2.	PH101/ CH101	Chemistry-1 (Gr-B) / Physics – 1 (Gr-A)	3	1	0	**4**	4	**Change in nomenclature (not in paper code) in Chemisrty.** **No change in nomenclature and paper code in Physics**	CH 101/ PH 101	Chemistry (Gr. A) / Physics - I(Gr. B)	3	1	0	4	4	
3.	M-101	Mathematics -1	3	1	0	**4**	4	**No change in nomenclature and paper code**	M 101	Mathematics -I	3	1	0	4	4	
4.	**ES101**	Basic Electrical & Electronic	3	1	0		4	Basic Electrical Engineering with code	EE 101/ EC 101	Basic Electrical Engineering (Gr. A) /	3	1	0	4	4	

#	Code	Paper	L	T	P	Cr		Remarks	New Code	New Paper	L	T	P	Cr	
		Engineering – 1 (GrA+GrB)						EE101 for Gr. A / Basic Electronics Engineering with code EC101 for Gr. **B**		Basic Electronics Engineering (Gr. B)					
5.	**ME-101**	Engg. Mechanics	3	1	0	**4**	4	**No change in nomenclature and paper code**	ME 101	Engineering Mechanics	3	1	0	**4**	4
						18	18							**18**	18
6.	PH191/ CH191	Chemistry -1 (Gr-B)/ Physics – 1 (Gr-A)	0	0	3	**2**	3	**Change in nomenclature (not in paper code) in Chemisrty.** **No change in nomenclature and paper code in Physics**	CH 191/ PH191	Chemistry Lab (Gr. A) / Physics -I Lab(Gr. B)	0	0	3	**2**	3
7.	ES191	Basic Electrical & Electronic Engineering -1	0	0	3	**2**	3	Basic Electrical Engineering Lab with code EE191 for Gr. A / Basic Electronics Engineering Lab with	EE 191/ EC 191	Basic Electrical Engineering Lab (Gr. A) /Basic Electronics Engineering Lab(Gr. B)	0	0	3	**2**	3

Sl	Paper Code	Subject	L	T	P	Cr	C	Remarks	Paper Code	Subject	L	T	P	Cr	C	
								code EC191 for Gr. **B**								
8.	ME191 /192	Engg Drawing & Computer Graphics (Gr-B) / Workshop Practice (Gr-A)	1	0	3	**3**	4	**No change in nomenclature and paper code**	ME 191	Engg Drawing & Graphics(Gr A)/ Workshop Practice (Gr-B)	0	0	3	**2**	3	
	ME291 /292	Engg Drawing & Computer Graphics (Gr-B) / Workshop Practice (Gr-A)	1	0	3	**3**	4	**No change in nomenclature and paper code**	ME 191	Engg Drawing & Graphics(Gr A)/ Workshop Practice (Gr-B)	0	0	3	**2**	3	
9.	**HU-181**	Language Laboratory	0	0	2	**1**	2	**Change in nomenclature as well as paper code. Inclusion of new project.**	HU191	Lang. Lab. and Seminar Presentation	0	0	2	**1**	2	
10.	XC181	Extra Curricular Activities(NSS /NCC/NSO etc)	0	0	2	**1**	2	Paper code is changed	HU181	Extra Curricular Activity (NSS/ NCC)	0	0	2	**1**	2	
						09	**14**							**08**		
						27	**32**							**26**		

Comparative study of Course Structure for 1ST yr. 1ST Sem. B.Tech.(ALL STREAMS) course (2016-17)

| S.N | MAKAUT | | | | | | | | | Proposed | | | | | | | | |

S.N	Paper Code	Paper Name	Contact Periods/Week			Cr	CH	REMARKS	Paper Code	Paper Name	Contact Periods/Week			Cr	CH	REMARKS
			L	T	P						L	T	P			
1.	CS201	Basic Computation & Principles of Computer Programming	3	1	0	4	4	**Change in nomenclature (not in paper code)**	CS 201	Computer Fundamentals & Principle of Computer Programming	3	1	0	4	4	
2.	PH201/ CH201	Chemistry-1 (Gr-A) / Physics – 1 (Gr-B)	3	1	0	4	4	**Change in nomenclature (not in paper code) in Chemisrty.** **No change in nomenclature and paper code in Physics**	CH 201/ PH 201	Chemistry (Gr. B) / Physics - I(Gr. A)	3	1	0	4	4	
3.	M201	Mathematics -2	3	1	0	4	4	**No change in nomenclature and paper code**	M 201	Mathematics -II	3	1	0	4	4	
4.	ES201	Basic Electrical & Electronic Engineering-	3	1	0	4	4	**Basic Electrical Engineering with code EE201 for**	EE 201/ EC 201	Basic Electrical Engineering (Gr. B) / Basic	3	1	0	4	4	

		II						Gr. B		Electronics Engineering (Gr. A)					
								Basic Electronics Engineering with code EC201 for Gr. **A**							
5.	**ME-201**	Engg. Thermodynamics & Fluid Mechanics	3	1	0	**4**	4	**No change in nomenclature and paper code**	ME 201	Engg. Thermodynamics & Fluid Mechanics	3	1	0	**4**	4
						20	**20**							**20**	20

6.	CS291	Basic Computation & Principles of Computer Programming	0	0	3	**2**	3	**Change in nomenclature (not in paper code)**	CS291	Computer Fundamentals & Principle of Computer Programming Lab	0	0	3	**2**	3
7.	PH291/ CH291	Physics –1 (Gr-B) /Chemistry-1 (Gr-A)	0	0	3	**2**	3	**Change in nomenclature (not in paper code) in Chemisrty.** **No change in nomenclature and paper code in Physics**	CH 291/ PH291	Chemistry Lab (Gr. B) / Physics -I Lab(Gr. A)	0	0	3	**2**	3

#	Code	Course	L	T	P	Cr	Ct	Change	Code	Course	L	T	P	Cr	Ct	
8.	ES291	Basic Electrical & Electronic Engineering-II	1	0	3	**2**	3	Basic Electrical Engineering with code EE201 for Gr. B / Basic Electronics Engineering with code EC201 for Gr. **A**	EE 291/ EC 291	Basic Electrical Engineering Lab (Gr. B) /Basic Electronics Engineering Lab(Gr. A)	0	0	3	**2**	3	
9.	ME291 /292	Workshop Practice (Gr -B) / Basic Engg Drawing & Computer Graphics (Gr-A)	1	0	3	**3**	4	**No change in nomenclature and paper code**	ME 291/M E 292	Engg Drawing & Graphics(Gr B)/ Workshop Practice (Gr-A)	0	0	3	**2**	3	
									MC 281	Soft Skill Development	0	0	2	**2 units**	2	
						09	1 3							**08**	1 4	
						29	33							**28**		

Basic Science and Humanities Department

Narula Institute of Technology is an autonomous college. In view of the Academic benefit of the Institute and students as a whole , revision and update of syllabi have been done in the Department of Mathematics, Chemistry, Physics and English in order to restructure and redesign the curriculum of these subjects to suit the local as well as global needs of the students. The modules of the Science and Humanities subjects of 1st year students are developed in a structured manner to meet the needs of the Engineering courses for the next semesters.

Applied Electronics and Instrumentation Department

Paper Name: Mathematics-III
Paper Code: M 301
Contact: 3L+1T
Credits: 4
Course: B.Tech
Target Stream: EIE, AEIE
Semester: 3rd Semester

Module No.	No. of Lectures	Syllabus formed for Autonomy	Content Delete/Insert from MAKAUT	Remarks & Justification
Module I: Fourier Series and Fourier Transform	10L	**Topic: Fourier Series:** **Sub-Topics:** Introduction, Periodic functions: Properties, Even & Odd functions: Properties, Special wave forms: Square wave, Half wave Rectifier, Full wave Rectifier, Saw-toothed wave, Triangular wave. Euler's Formulae for Fourier Series, Fourier Series for functions of period 2π, Fourier Series for functions of period , Dirichlet's conditions, Sum of Fourier series. Examples. Theorem for the convergence of Fourier Series (statement only). Fourier Series of a function with its periodic	**Insert:** Discussions on application of the topic related to Engineering problems	Students should have knowledge of various applications of Fourier Series in the respective Engineering discipline.

		extension. Half Range Fourier Series: Construction of Half range Sine Series, Construction of Half range Cosine Series. Parseval's identity (statement only). Examples. **Topic: Fourier Transform:** **Sub-Topics:** Fourier Integral Theorem (statement only), Fourier Transform of a function, Fourier Sine and Cosine Integral Theorem (statement only), Fourier Cosine & Sine Transforms. Fourier, Fourier Cosine & Sine Transforms of elementary functions. Properties of Fourier Transform: Linearity, Shifting, Change of scale, Modulation. Examples. Fourier Transform of Derivatives. Examples. Convolution Theorem (statement only), Inverse of Fourier Transform, Examples. **Discussions on application of the topic related to Engineering problems**		
Module II: Theory of Probability	**10L**	**Topic: Basic Probability Theory** **Sub-Topics:** Classical definition and its limitations,	**Delete:** Some distributions like Uniform, Exponential etc.	Certain basic probability distributions are included. Unnecessary overload of the

		Axiomatic definition, events, dependence and independence of events, conditional probability, Baye's theorem and related problems.		syllabus is avoided**.
		Topic: Random Variable & Probability Distributions. Expectation. **Sub-Topics:** Definition of random variable. Continuous and discrete random variables. Probability density function & probability mass function for single variable only. Distribution function and its properties (without proof). Examples. Definitions of Expectation & Variance, properties & examples. Some important discrete distributions: Binomial, Poisson, Normal distributions, Determination of Mean, Variance and standard deviation for Binomial, Poisson & Normal distributions only. **Discussions on application of the topic related to Engineering problems**	**Insert:** Discussions on application of the topic related to Engineering problems	Students should have knowledge of various applications of probability in the respective Engineering discipline.
Module III: Calculus of Complex Variable	12L	**Topic:** Introduction to Functions of a Complex Variable. (i)Detailed	**Delete:**	For simplicity and need based strategy detailed

		Sub-Topics: Complex functions, Concept of Limit, Continuity and Differentiability. Analytic functions, Cauchy-Riemann Equations (statement only). Sufficient condition for a function to be analytic. Harmonic function and Conjugate Harmonic function, related problems. Construction of Analytic functions: Milne Thomson method, related problems. **Topic: Complex Integration.** **Sub-Topics:** Concept of simple curve, closed curve, smooth curve & contour. Some elementary properties of complex Integrals. Line integrals along a piecewise smooth curve. Examples. Cauchy's theorem (statement only). Cauchy-Goursat theorem (statement only). Examples. Cauchy's integral formula, Cauchy's integral formula for the derivative of an analytic function, Cauchy's integral formula for the successive derivatives of an analytic function. Examples. Taylor's series, Laurent's series. Examples. **Topic:** Zeros and Singularities	Discussions on Bilinear Transformation. (ii)Complicated Contour Integration has been deleted. **Insert:** Discussions on application of the topic related to Engineering problems	Discussions on Bilinear Transformation & Complicated Contour Integration has been avoided. Students should have knowledge of various applications of complex analysis in the respective Engineering discipline.

		of an Analytic Function & Residue Theorem. **Sub-Topics:** Zero of an Analytic function, order of zero, Singularities of an analytic function. Isolated and non-isolated singularity, essential singularities. Poles: simple pole, pole of order m. Examples on determination of singularities and their nature. Residue, Cauchy's Residue theorem (statement only), problems on finding the residue of a given function, Introduction Conformal transformation, Bilinear transformation, simple problems. **Discussions on application of the topic related to Engineering problems**		
Module IV: PDE AND ODE	12L	**Topic: Basic concepts of PDE.** **Sub-Topics:** Origin of PDE, its order and degree, concept of solution in PDE. Introduction to different methods of solution: Separation of variables, Laplace & Fourier transform methods.	**Delete:** Legendre Equation and Legendre polynomials, Frobenius method, Bessel's Equation and Bessel function	For simplicity and need based strategy detailed discussions on Legendre Equation and Legendre polynomials, Frobenius method, Bessel's Equation and

				Bessel function has been avoided
		Topic: Solution of Initial Value & Boundary Value PDE's by Separation of variables, Laplace & Fourier transform methods.		
		Sub-Topics: PDE I: One dimensional Wave equation. PDE II: One dimensional Heat equation. PDE III: Two dimensional Laplace equation.	**Insert:** Discussions on application of the topic related to Engineering problems	Students should have knowledge of various applications of PDE & ODE in the respective Engineering discipline.
		Topic: Introduction to series solution of ODE.		
		Sub-Topics: Validity of the series solution of an ordinary differential equation. General method to solve Po $y''+P_1 y'+P_2 y=0$ and related problems to Power series method**.**		
		Discussions on application of the topic related to Engineering problems		

SUBJECT NAME: NUMERICAL METHODS
SUBJECT CODE: M(CS) 301
YEAR: SECOND YEAR
SEMESTER: 3RD SEMESTER
CONTACT HOURS: 2 :1:0
CREDIT: 3
TOTAL CONTACT HOURS: 33L

Module	No. of Lectures	Syllabus formed for Autonomy	Content Delete/ Insert from MAKAUT	Remarks for Justification
Module I	20	Approximation in numerical computation: Truncation and rounding errors, Fixed and floating-point arithmetic, Propagation of errors. (2) Interpolation: Newton forward/backward interpolation, Sterling & Bessel's Interpolation formula, Lagrange's and Newton's divided difference Interpolation. (7) Numerical integration: Using Newton Cotes formula Derive Trapezoidal rule, Simpson's 1/3 rule, Weddle's Rule, Romberg Integration, Expression for corresponding error terms. (5) Numerical solution of a system of linear equations: Gauss elimination method, Tridiagonal matrix algorithm, LU Factorization method, Gauss-Seidel iterative method, Successive over Relaxation (SOR) method. (6)	Insert: Central Difference Interpolation Formula (Sterling & Bessel's Interpolation formula) Insert: Romberg Integration	Nowton's formulae are not suitable to give us best result when the augment value is near the middle of the tabulated value. Romberg Integration is needed for integration
Module II	13	Solution of polynomial and	Insert:	

| | | transcendental equations: Bisection method, Regula-Falsi method, Secant Method, Newton-Raphson method. (5)

Numerical solution of ordinary differential equation: Euler's method, Euler's modified method, Runge-Kutta methods, Taylor series method and Predictor-Corrector methods. (6)

Numerical solution of partial differential equation: Finite Difference method, Crank–Nicolson method. (2) | Secant Method

Insert:
Taylor series method

Insert:

Numerical solution of partial differential equation: Finite Difference method, Crank–Nicolson method
Insert: Statistics | Mathematical model of Many engineering problems are in the form in PDE. So student need to know how to solve PDE. |

Name of the Paper: ANALOG ELECTRONIC CIRCUITS

Paper Code: EC(EI) 302

Contact (periods/week): L-T-P: 3-1-35

Credit point: 3

Number of lectures: 3

Module Of syllabus of MAKAUT	Existing syllabus as per MAKAUT Module wise	Addition/ deletion	Justification	No. of lectures (required)	Proposed Modules of Autonomy syllabus	Syllabus for Autonomy
I	Filters and Regulators: Capacitor filter, π-section filter, ripple factor, series and shunt voltage	Shifted to Module IV and biasing part is deleted. Small signal analysis of FET & source follower are	Biasing is already existing in the Basic Electronics	5	I	DESIGN AND ANALYSIS OF SMALL SIGNAL AMPLIFIERS: BJT Transistors Modelling- hybrid model of

		included				transistors. Expression for voltage gain, current gain, input and output impedance, transresistance & trans-conductance; Emitter follower circuits, High frequency model of transistors. FET Small signal analysis and Source follower
	regulator, percentage regulation, 78xx and 79xx series, concept of SMPS. Transistor Biasing and Stability: Q-point, Self Bias-CE, Compensation techniques, h-model of transistors. Expression for voltage gain, current gain, input and output impedance, transresistance & trans-conductance; Emitter follower circuits, High frequency model of transistors.					
II	Transistor Amplifiers: RC coupled amplifier, functions of all components, equivalent circuit, derivation of voltage gain, current gain, input impedance and output impedance, frequency response characteristics, lower and upper half frequencies, bandwidth, and concept of wide band	Nothing is changed	It is fine	4+5=9	II	Transistor Amplifiers: RC coupled amplifier, functions of all components, equivalent circuit, derivation of voltage gain, current gain, input impedance and output impedance, frequency response characteristics, lower and upper half frequencies, bandwidth, and concept of wide band amplifier.

	amplifier. Feedback Amplifiers & Oscillators: Feedback concept, negative & positive feedback, voltage/current, series/shunt feedback, Berkhausen criterion, Colpitts, Hartley's, Phase shift, Wein bridge and crystal oscillators.					Feedback Amplifiers & Oscillators: Feedback concept, Voltage series-shunt, current series-shunt feedback Configurations, Barkhausen criterion, Colpitts, Hartley, Phase shift, Wein bridge and crystal oscillators
III	Operational Amplifier: Ideal OPAMP, Differential Amplifier, Constant current source (current mirror etc.), level shifter, CMRR, Open & Closed loop circuits, importance of feedback loop (positive & negative), inverting & non-inverting amplifiers, voltage follower/buffer circuit. Applications of Operational Amplifiers: adder, integrator & differentiator, comparator, Schmitt Trigger. Instrumentatio n Amplifier,	inverting & non-inverting amplifiers, voltage follower/buffe r circuit, Integrator and differentiator are discarded	It is needed	2+5+3	III	Operational Amplifier: Ideal OPAMP, Differential Amplifier, Constant current source (current mirror etc.), level shifter, CMRR, Open & Closed loop circuits, importance of feedback loop (positive & negative) Applications of Operational Amplifiers: comparator, Schmitt Trigger. Instrumentation Amplifier, Log & Anti-log amplifiers, Analog multiplier, Precision Rectifier, voltage to current and current to

	Log & Anti-log amplifiers, Trans-conductance multiplier, Precision Rectifier, voltage to current and current to voltage converter, free running oscillator. Multivibrator – Monostable, Bistable, Astable multivibrators; Monostable and astable operation using 555 timer.					voltage converter, free running Multivibrator , zero crossing detector Multivibrator – Monostable, Bistable, Astable multivibrators ; Monostable and astable operation using 555 timer.
IV	Not present	Module I topics are shifted in this module and some power amplifiers are added	For the benefit of circuit design and Lab operation purpose	5+6=11	IV	Large signal Amplifiers: Classification of power amplifiers (Class A, B, AB), Efficiency of class A, RC coupled and transformer Coupled power amplifiers-Class B complementary-symmetry, push-pull power amplifiers-Calculation of power output, efficiency and power dissipation-Crossover distortion. Power Supply: Analysis for DC voltage and

						ripple voltage with C, L-C and C-L-C filters in Rectifier Circuit - Regulated dc power supplies-Line regulation, output resistance and temperature coefficient, Series and Shunt Voltage Regulation – percentage regulation,Fixed output voltage IC regulator 78xx and 79xx series , Adjustable output voltage regulator LM 317, LM 337 series power supply ICs , Concept of Switching Mode Power Supply

Name of the Paper: Digital Electronic Circuits Code
Paper Code: EI 302
Contact (periods/week): L-T-P: 3L
Credit point: 3

Module Of syllabus of MAKAUT	Existing syllabus as per MAKAUT Module wise	Addition/ deletion	Justification	No. of lectures (required)	Proposed Modules of Autonomy syllabus	Syllabus for Autonomy
Module I	Data and number systems; Binary, Octal and Hexadecimal representation and their conversions; BCD,ASCII, EBDIC, Gray codes and their conversions; Signed binary number representation with 1's and 2's complement methods, Binary arithmetic.	Addition: 1.Introduction Rearrangement: 2.Topic "Data and number system" is divided in four sub topic as follows i) Number system ii)Number representation iii)Binary codes iv)Binary arithmetic	1. To give basic concept about digital system and to relate digital electronic system with our real life. 2 .It is helpful to teach student systematically.	4	Module I	Introduction: Digital system, Comparison between Analog and Digital system, Logic level, Element of Digital Logic, Functions of Digital logic. Data and number systems; Number system: Binary, Octal and Hexadecimal representation and their conversions; Number Representation: Signed binary number representation with 1's and 2's complement methods, Fixed point - Floating point Binary Codes: BCD- Gray code- Excess 3 code- Alpha Numeric codes – Error detecting and correcting codes- properties Binary Arithmetic: Addition, subtraction, Multiplication,

						Division, Addition and subtraction by 1's and 2's complement, BCD addition and subtraction
	Boolean algebra; Various Logic gates- their truth tables and circuits; Representation in SOP and POS forms; Minimization of logic expressions by algebraic method, K-map method and Quine-McClauskey method	Rearrangement: 1. Subtopics under Boolean algebra are rearranged and clearly mentioned .	1. It is helpful to teach student systematically.	6		Boolean algebra: Theorems and operations ,Boolean expressions and truth tables, Representation in SOP and POS forms Boolean functions; Minterm and Maxterm expansions Minimization of logic expressions by algebraic method, K-map method and Quine-McClauskey method Combinational logic design using truth table- Positive and Negative Logic. Various Logic gates- their truth tables and circuits; Design of circuits with universal gates. Exclusive-OR and Exclusive NOR and equivalence operations
Module II	Combinational circuits- Adder and	Subtopics are rearranged and clearly	It is helpful to teach student	7	Module II	Combinational circuits- Design

	Subtractor circuits; Applications and circuits of Encoder, Decoder, Comparator, Multiplexer, De-Multiplexer and Parity Generator.	mentioned.				procedure– Adder: and Subtractor circuit:half and full adder and subtractor,BCD adder and subtractor, controlled invertor, Code convertors:BCD to exces and vice versa ,Binary to BCD, Gray to binary And viceversa. Applications and circuits of Encoder, Decoder, Comparator, Multiplexer, De-Multiplexer and Parity Generator.
	Memory Systems: RAM, ROM, EPROM, EEROM	This topic is shifted after sequential circuit	As concept of flipflop is required to understand RAM	5	Module III	Sequential Logic: Basic memory element- S-R, J-K, D and T Flip Flops- Truth table and Excitation table, Conversion of Flipflop Various types of Registers and their design and application Synchronous and Asynchronous counters ,Irregular counter- counter design

				5		Sequential Circuits Design: State diagrams and tables, transition table, excitation table , Examples using flip-flops. Analysis of simple synchronous sequential circuits, construction of state diagram,State Machine-Mealy and Moore machine
Module III	Sequential Circuits- Basic memory element-S-R, J-K, D and T Flip Flops, various types of Registers and counters and their design, Irregular counter, State table and state transition diagram, sequential circuits design methodology.	Subtopics are rearranged and clearly mentioned.	It is helpful to teach student	2	Module IV	Memory Systems: RAM-Static RAM and Dynamic RAM, ROM, EPROM, EEROM Programmable logic device: programmable read only memory, programmable logic arrays and programmable array logic, Design using PLA,PAL,PROM , Field programmable gate arrays.

	Different types of A/D and D/A conversion techniques.	Subtopics are clearly mentioned.	It is helpful to teach student	2		Logic families- TTL, ECL, MOS and CMOS, their operation and specifications: Logic levels, propagation delay time, power dissipation fan-out and fan-in, noise margin. Implementation of Logic gate using TTL,MOS
	Logic families- TTL, ECL, MOS and CMOS, their operation and specifications.	Subtopics are clearly mentioned.	It is helpful to teach student	3		Different types of A/D and D/A : conversion techniques: analog-to- digital (successive approximation, Dual slope, flash) and digital-to- analog converters (weighted R, R-2R ladder and current steering logic). Characteristics of ADC and DAC (resolution, quantization, significant bits, conversion/settling time)

2nd year, 3rd Semester

Name of the Paper: Electrical & Electronic Measurement &Instrumentation

Paper Code: EI304

Contact (periods/week): L-T-P: 3-1-0

Credit point: 4

Number of lectures: 45

Electrical Measurements and Instruments (EI 301) and Electronic Instrumentation and Measurement (EI602) in the existing MAKAUT syllabus are combined together as one subject in the autonomy syllabus, "**Electrical & Electronic Measurement &Instrumentation" (EI304).**

Proposed Modules of Autonomy syllabus	Syllabus for Autonomy	No of lectures required	Comparison with existing MAKAUT Syllabus
Module 1	i. Static and dynamic characteristics of measuring instruments. ii. Reliability, MTTF, Bath tub curve iii. Introduction to electrical voltmeters and ammeters: PMMC, MI, Electrodynamometer and Electrostatic instrument	4+7=11	➢ Module1 and module 2 of Electrical Measurements and Instruments (EI 301) in existing MAKAUT syllabus are combined together. ➢ Some of the topics in the existing MAKAUT syllabus are to be deleted as two subjects (EI301 and EI602) are combined. ➢ The sequence of the topics are sometimes altered as it will be beneficial for the students to better understand the subject. ➢ Statistical analysis of error in module 2 of EI 301 in existing MAKAUT syllabus has been deleted and is to be incorporated in the laboratory syllabus of EI393.
Module2	i. Measurement of Resistance, Capacitance and Inductance: Kelvin's Double bridge, Wheatstone bridge, Loss of charge method, Meggar, De sauty's bridge, Schering bridge, Anderson bridge and maxwell's inductance capacitance bridge ii. Localization of cable fault iii. Basic concept of Potentiometer and Energy meter	7+1+3=11	➢ Module3 and module 4 of Electrical Measurements and Instruments (EI 301) in existing MAKAUT syllabus are combined together. ➢ Wien bridge in module 3 of EI 301 in existing MAKAUT syllabus has been deleted, as it is already included the analog electronics syllabus. ➢ High voltage measurement techniques are deleted as it is not very important topic for the instrumentation students from application point of view. ➢ Potentiometer has been incorporated in this syllabus, as it is very important for the students to better understand the calibration and range extension of the measuring instruments.

Name of the Paper: Sensors and Transducers

Paper Code: EI401

Contact (periods/week): L-T-P: 3-1-0

Credit point: 4

Number of lectures: 40L

Module Of syllabus of MAKAUT	Existing syllabus as per MAKAUT Module wise	Addition/ deletion	Justification	No. of lectures (required)	Proposed Modules of Autonomy syllabus	Syllabus for Autonomy
1	Definition, principles of sensing and transduction, classification Mechanical and Electromechanical sensors Resistive (potentiometric) type: Forms, materials, resolution, accuracy, sensitivity Strain Gauges: theory, types, materials, design consideration, sensitivity, gauge factor, variation with temperature, adhesives, rosettes, applications force, velocity and torque measurements Inductive sensors: common types- reluctance change type, mutual inductance change type, transformer action type, - brief discussion with respect to materials, construction and input output variables, Ferromagnetic plunger type-short analysis; proximity measurement LVDT: Construction,	Addition

Response to impulse, step, ramp and sinusoidal inputs, sensitivity calculation, error estimation. | This addition is necessary for analyzing the sensor performance | 14L | 1 | Introduction & Characteristics of Transducers Measurement system, Principles of sensing & transduction, Classification of sensors, Static characteristics, Dynamic characteristics: Zero, first order and second order measurement system, Response to impulse, step, ramp and sinusoidal inputs, sensitivity calculation, error estimation.

Resistive Sensing Element Potentiometer: Loading effect, Strain gauge : theory, types, temperature compensation, applications: force, velocity and torque measurements.

Inductive Sensing Element

Self-inductive transducer, Mutual inductive transducers, Variable Reluctance type, Linear Variable |

	materials, output-input relationship, I/O curve, discussion				Differential Transformer: construction, response, application: LVDT Accelerometer, LVDT displacement sensors.
2	Capacitive sensors: Variable distance- parallel plate type, Variable area-parallel plate, serrated plate/teeth type and cylindrical type, variable dielectric constant type: calculation of sensitivities; proximity measurement Stretched Diaphragm type: microphones, response characteristics Piezoelectric elements: piezoelectric effects, charge and voltage coefficients, crystal model, materials, natural and synthetic types – their comparison, force and stress sensing, piezoelectric accelerometer Tachometers – Stroboscopes, Encoders, seismic accelerometer, Measurement of vibration.	No change		10L		Capacitive Sensing Element Capacitive transducer: Variable Area Type, Variable distance type , Variable Permittivity type, applications, calculation of sensitivities Piezoelectric & Piezoresistive Sensing Element Piezoelectric effects, charge and voltage coefficients, crystal model, materials, natural and synthetic types –their comparison, force and stress sensing, piezoelectric accelerometer, piezoresistive sensor. Tachometers: Stroboscopes, Encoders, seismic accelerometer, Measurement of vibration, Proximity switches, Load cells:

						pneumatic, piezoelectric, elastic and magneto-elastic types - their mounting.
3	Industrial weighing systems : Link–lever mechanism, Load cells – pneumatic, piezoelectric, elastic and magneto-elastic types - their mounting, pressductor, different designs of weighing systems, conveyors type, weighfeeder type. Thermal sensors: Resistance change type: RTD - materials, construction, types, working principle Thermister - materials, construction, types, working principle Thermoemf sensors: Thermocouple - types, working principle Thermopile - types, working principle	<u>Deletion:</u> Industrial weighing systems : Link–lever mechanism, different designs of weighing systems, conveyors type, weighfeeder type. <u>Addition:</u> Optical Sensors Light Dependent Resistor, Optocoupler, Photodiode, Phototransistor, Photomultiplier tube, solar cell. <u>Shifting from module IV to III:</u> Magnetic Sensors Sensors based on Villari effect for assessment of force, torque, rpm meters, Hall effect and Hall drive, performance characteristics	**Optical sensors are not given in the MAKAUT syllabus which is very significant part of this subject. Hence optical sensors are added replacing the industrial weigh systems. Generally, Industrial weigh systems are broadly covered in Industrial instrumentation subject. **To make the syllabus compact the magnetic sensors are included in module III.	12L		Thermoelectric Sensing Element Self-inductive transducer, Mutual inductive transducers, Variable Reluctance type, Linear Variable Differential Transformer: construction, response, application: LVDT Accelerometer, LVDT displacement sensors. Optical Sensors Light Dependent Resistor, Optocoupler, Photodiode, Phototransistor, Photomultiplier tube, solar cell. Magnetic Sensors Sensors based on Villari effect for assessment of force, torque, rpm meters, Hall effect and Hall drive, performance

						characteristics
4	Magnetic sensors: Sensors based on Villari effect for assessment of force, torque, rpm meters, proximity measurement Hall effect and Hall drive, performance characteristics Geiger counters, Scintillation detectors, Introduction to Smart sensors	Deletion: Geiger counters, Scintillation detectors Addition: Advanced Sensors Electrochemical Gas sensors-Fibre optic sensors-Thick film technology-MEMS sensors-Nano sensors-Sensors for intelligent systems-Introduction to Smart sensors, Multi sensor systems.	** As per the BOS committee member advice, the syllabus must contain some introduction to advanced sensors which are used in recent days. Hence with the discussion with syllabus committee some advanced sensors are introduced into the subject replacing few topics.			Advanced Sensors Electrochemical Gas sensors-Fibre optic sensors-Thick film technology-MEMS sensors-Nano sensors-Sensors for intelligent systems-Introduction to Smart sensors, Multi sensor systems.

Name of the Paper: Microprocessors and Microcontrollers

Paper Code: EI 402

Contact (periods/week): L-T-P: 3L + 1T

Credit point: 4

Number of lectures: 42

Module Of syllabus of MAKAUT	Existing syllabus as per MAKAUT Module wise	Addition/ deletion	Justification	No. of lectures (required)	Proposed Modules of	Syllabus for Autonomy

					Autonomy syllabus	
MICROPROCESSORS AND COMPUTER ARCHITECTURE Code: EI402 1	Introduction to microprocessors: Overview of 8085, Internal architecture, Pin Diagram description. Software instruction set and Assembly Language Programming. Addressing Modes.			7	1	Introduction to microprocessors, Evolution of microprocessors, The 8085 Internal architecture, Pin Diagram Instruction set and Assembly Language Programming. Addressing Modes.
2	Instruction cycle, machine cycle, Timing diagrams. Interrupts: Introduction, Interrupt vector table, Interrupt service routine, Design of programs using interrupts. DMA operation. Stack and Stack Handling, Call and subroutine, Counter and Time delay generation.			7	2	The 8085 microprocessor: Timing diagrams, Stack and subroutine related operation, Counter and Time delay generation, Interrupt systems, DMA operation, Introduction to Serial Communication
3	Hardware Interfacing: Interfacing memory, Interfacing I/O devices. Programmable peripheral devices (PPI) – Intel 8255, Programmable interval timer – Intel 8254, Programmable Keyboard/Display Controller- Intel 8279, A/D and	Deletion: Interfacing Programmable Keyboard/Display Controller- Intel 8279 with 8085 Addition: Interfacing Programmable Interrupt Controller 8259A, Intel 8251 USART with 8085	Deletion Justification: Syllabus volume is high Addition Justification: Necessary for industrial needs	8	3	Interfacing techniques with 8085: Interfacing memory, Interfacing I/O devices. Programmable peripheral devices (PPI) – Intel 8255, Programmable interval timer – Intel 8254, A/D and D/A converters, Programmable Interrupt

	D/A converters and interfacing of the same.					Controller 8259A, Intel 8251 USART
4	General organization of a digital computer, Architecture classification, Parallel computers classification, Harvard architecture, Von Neumann architecture, Pipelining, pipeline hazards, Multiprocessors, Array processors.	Deletion: Computer Architecture: General organization of a digital computer, Architecture classification, Parallel computers classification, Harvard architecture, Von Neumann architecture, Pipelining, pipeline hazards, Multiprocessors, Array processors.	Deletion Justification: In this paper, emphasis is given only on microprocessor	6	4	Intel 8086/8088 Microprocessor: Architecture, Register organization, Clock Generator, Resetting the microprocessor, Wait State Inserting, Bus Buffering, Pin details, Assembly Language Programming and Addressing Modes, Interrupts
ADVANCED MICROPROCESSORS AND MICROCONTROLLERS Code: EI 603 1	Intel 8086/8088 Microprocessor: Architecture, Clock Generator, Resetting the microprocessor, Wait State Inserting, Bus Buffering, Interrupts, and Assembly Language Programming and Addressing Modes.			12	5	Introduction to single chip microcontrollers: Intel MCS-51 family features, 8051/8031 architecture, pin configuration, I/O ports and Memory organization. Instruction set and basic assembly language programming. Timer/Counter and Serial Communication, Interrupts. Assembly language programming using 8051: Moving data,

						external data moves, code memory read only data moves, PUSH, POP, data exchanges Logical instructions, Byte level, bit level instructions, ROTATE, SWAP instructions, Arithmetic instructions, Flags, incrementing, decrementing, addition, substraction, multiplication, division, decimal arithmetic

Jump and Call instructions, Jump and Call ranges, subroutines and return instructions MCS-51 applications: Square wave and pulse wave generation, LED, |
| 2 | Interfacing Memory: Classification of Memory, Address decoding (using logic gates, decoders and PAL), Interfacing Static RAM (6116 – 2K, 6264 – 8K), Interfacing EPROM (2764 – 8K, 27256 – 32K), Designing | Deletion: Memory and I/O interfacing using 8086 | Deletion Justification: Syllabus volume is high and emphasis is given on memory and I/O interfacing to 8085 and 8051 | 2 | 6 | Introduction to PIC micro-controller, architecture, pin details, memory layout |

	Memory Modules (higher capacity say 512K) using memory chips (say 8K). Interfacing I/O Devices.					
3	Interfacing and assembly language monitor program for Key Board (one dimensional, two dimensional) and 7-segment display, Stepper Motor through 8255A, Data transfer between two microprocessor based systems through 8255. 8237 DMA controller and interfacing with 8086 microprocessor Programmable communication interface- Intel 8251 USART. Programmable Interrupt Controller- 8259A.	Deletion: Stepper Motor through 8255A, Data transfer between two microprocessor based systems through 8255. 8237 DMA controller and interfacing with 8086 microprocessor Programmable communication interface- Intel 8251 USART. Programmable Interrupt Controller- 8259A.	Deletion Justification: Syllabus volume is high			
4	Introduction to single chip microcontrollers: Intel MCS-51 family features, 8051/8031 architecture, pin configuration, I/O ports and Memory organization. Instruction set and basic					

	assembly language programming. Interrupts, Timer/Counter and Serial Communication. MCS-51 applications: Square wave and pulse wave generation, LED, A/D Converter and D/A Converter interfacing to 8051. Introduction to PIC micro-controller				

Name of the Paper: Microprocessor and Microcontrollers Lab

Paper Code: EI 492

Contact (periods/week): L-T-P: 3P

Credit point: 2

Number of lectures: 10

Proposed Modules of Autonomy syllabus	No. of lectures (required)	Syllabus for Autonomy	Addition/ deletion	Justification
1	1	Familiarization with 8085 and 8051 trainer kit components	Shifting the total kit familiarization in a single module	Shifting Justification: In the current autonomy syllabus, the familiarization regarding microprocessor 8085, 8086 and microcontroller 8051 is merged
2	6	Study of programs	Deletion:	Deletion

		using basic instruction set (data transfer, Load/ Sore, Arithmetic, Logical) using 8085 trainer kit such as 1) Addition and subtraction 2) Copying and shifting a block of memory 3) Packing and unpacking of BCD numbers 4) Addition of BCD numbers 5) Binary to ASCII conversions 6) String matching 7) Multiplication 8) Sorting of array of numbers	Interfacing any 8-bit Latch (eg, 74LS373) with trainer kit as a peripheral mapped output port with absolute address decoding INTERFACING WITH I/O MODULES: a) ADC b) Speed control of mini DC motor using DAC C) STEPPER MOTOR Familiarization with 8086/88 trainer kit components. a) Study of prewritten programs on trainer kit using the basic instruction set (data transfer, Load/Store, Arithmetic, Logical) b) Assignments based on above. a) Familiarization with 8086/88 simulator on PC. b) Study of prewritten programs using basic instruction set (data transfer, Load/ Store, Arithmetic, Logical) on the simulator. c)	Justification: Syllabus volume is high and emphasis is given towards peripherals interfacing with microcontroller 8051 according to industrial needs and as prerequisite of final year project

			Assignments based on above	
<u>3</u>	<u>1</u>	Program using subroutine calls and IN/OUT instructions using 8255 PPI on the trainer kit eg, subroutine for delay, reading switch state & glowing LEDs accordingly, finding out the frequency of a pulse train etc		
<u>4</u>	<u>2</u>	Study of 8051 Micro controller kit and writing programs as mentioned in Module 2		

Information Technology Department

Stream: IT

Subject Name: Communication Engineering & Coding Theory

Subject Code: IT402

Contact hour: 3-0-0

Total contact hour-34

Credits: 3

Module No.	Syllabus for Autonomy	Number of lectures
1	**Elements of Communication system , introduction to signals and modulation:** Basic concept of a signal (Amplitude, frequency, wavelength, bandwidth), introduction to baseband transmission& modulation (basic concept) . Elements of Communication systems (mention of transmitter, receiver and channel); origin of noise and its effect on communication system . Concept and need for modulation - types of modulation, concept of time domain and spectral (frequency domain) representation of a signal .	4
2	**Linear modulation:** Linear Modulation : Basic principles of Amplitude Modulation with Time domain representation of AM signal, modulation index calculation, transmission bandwidth, power & efficiency calculations (only single tone) Basic concept of Square law modulator and balanced modulator (basic circuit level understanding only; no detailed mathematical derivation is needed) Detection of AM by envelope detector, (basic circuit level understanding only; no detailed mathematical derivation is needed) Synchronous detection for AM-SC. Basic principles of Sideband suppressed techniques and the need for it. Need for carrier suppression .Basic concept of SSB-SC , DSB-SC ,VSB-SC.	5

	Generation of SSB: Filter method, Phase shift method (only basic block diagram discussion) Names of SSB-SC , DSB-SC generator and detector	
3	**Non linear Modulation & Demodulation :** ***Frequency Modulation (FM) and Phase Modulation (PM):*** Time domain representations, total power calculation for a single tone message (FM). Generation of FM & PM: basic concept and difference of wide band frequency modulation and narrow band frequency modulation. basic concept on direct and indirect method of FM generation : introductory discussion on Armstrong method. Basic block diagram representation of generation of FM & PM: basic Concept of VCO & Reactance modulator (no mathematical derivation) only, ***Demodulation of FM and PM:*** Only Basic Concept of frequency discriminators Phase Locked Loop (no mathematical derivations) Comparison of various Analog modulaton techniques (AM – FM – PM), inter relation between PM and FM	4
4	**Sampling and digital transmission :** Sampling theorem, Sampling rate, sampling theorem, nyquist rate, Impulse sampling, Reconstruction from samples, Aliasing; Analog Pulse Modulation – basic discussion on PAM, PWM, PPM. Concept of Quantisation & Uniform Quantiser, Non-uniform Quantiser, Quantisation error, signal to quantisation noise ratio calculation, A-law & μ-law companding (after discussion on companding mention only the two types and their use) ,Encoding, Coding efficiency. Basic concept of Pulse Code Modulation, Block diagram of PCM , basic concept of DPCM ; Delta modulation, basic concept of slope overload and Granular distortion, Adaptive delta modulation (basic concept and importance only, no details) Multiplexing - TDM, FDM,SDM (only introduction to these). Line coding & properties, NRZ & RZ, AMI, Manchester coding. Brief discussion on : ISI, Raised cosine function, Nyquist criterion for distortion-less base-band binary transmission(only concept :no detailed discussion), Eye pattern	10
5	**Digital Carrier Modulation & Démodulation Techniques:** Introduction to the different digital modulation techniques - ASK, FSK, PSK, BPSK, QPSK, MSK, Introduction to QAM, (only basic concept-no mathematical details) Spread Spectrum Modulation – DSSS , FHSS - concept only.	5
6	**Information Theory & Coding**: Introduction to Information Theory, Entropy, Mutual information , Information rate , channel and bandwidth, Bit rate, Baud rate ,Information capacity, Shanon's limit, Shanon-Fano algorithm for encoding, *Huffman* coding for numerical , Shannon's Theorem - Source Coding Theorem, Information Capacity Theorem (basic understanding only) **Error control Strategies:** (Basic Concept of Data communication, concept of FEC, ARQ and CRC).	6

<u>**Text Books:**</u>

1. An Introduction to Analog and Digital Communications by Simon Haykin; Published by Wiley India.
2. Principle of Communication Systems by Herbert Taub and D.L.Schilling
3. Modern Digital and Analog Communication Systems –
4. Data Communication and Networking by Behrouz A. Forouzan, Published by Tata McGraw-Hill

References:

1. Communication Systems 4th Edition by Simon Haykin; Published by Wiley India (Student Edition)

2. Principles and Analog and Digital Communication by Jerry D Gibson, Published by MacMillan.

3. Communication Systems by A. B. Carlson, Published by McGraw-Hill.

4. Understanding Signals and Systems by Jack Golten, Published by McGraw Hill.

Stream: IT

Subject Name: Communication Engineering & Coding Theory Lab

Subject Code: IT492

Contact hour: 0-0-3

Total contact hour-30

Credits: 3

Perform any ten experiments:

Module No.	Syllabus for Autonomy	Number of lectures
1	Generation of amplitude modulation (Design using transistor or balanced modulator chip (to view the wave shapes) and its demodulation.	**3**
2	Study of Amplitude Modulated Signal and measurement of modulation index for the various conditions undermodulated, over modulated and critically modulated.	3
3	Study of Frequency Modulation (FM) and Demodulation Techniques. Measure the frequency deviation and the modulation index of the wave.	3
4	Generation of FM using VCO chip	3
5	Study of Time Division Multiplexing and Demultiplexing Techniques.	3
7	Generation of PAM and its demodulation	3
8	Generation of PWM AND PPM (using IC 555Timer)	3
9	Study of Pulse code modulation and demodulation	3
10	Study of Digital Modulation techniques: Generation of ASK and its demodulation	3
11	Study of Digital Modulation techniques: Generation of FSK and its demodulation	3
12	Study of Digital Modulation techniques: Generation and demodulation of BPSK	3

Paper Name: Formal Language and Automata Theory
Paper Code: IT403
Contacts: 3L
Credits:3

Course Structure and Syllabus:

Prerequisite: Elementary discrete mathematics including the notion of set, function, relation, product, partial order, equivalence relation, graph& tree. They should have a thorough understanding of the principle of mathematical induction.

Syllabus Content	
Module 1	
[14]	Fundamentals: Basic definition of sequential circuit, block diagram, mathematical representation, concept of transition table and transition diagram (Relating of Automata concept to sequential circuit concept) Design of sequence detector, Introduction to finite state model Finite state machine: Definitions, capability & state equivalent, kth-equivalent concept, Finite memory definiteness, testing table & testing graph. Minimization of FSM-completely specified and incompletely specified(Merger graph, Merger table, Compatibility graph) Equivalence between two FSM's, Limitations of FSM Application of finite automata, Finite Automata with output- Moore & Melay machine.
Module 2	
[10]	Deterministic finite automaton and non deterministic finite automaton. Transition diagrams and Language recognizers. Finite Automata: NFA with Î transitions - Significance, acceptance of languages. Conversions and Equivalence: Equivalence between NFA with and without Î transitions. NFA to DFA conversion. DFA minimization. Myhill-Nerode theorem Regular Languages: Regular sets. Regular expressions, identity rules. Arden's theorem state and prove Constructing finite Automata for a given regular expressions, Regular string accepted by NFA/DFA. Pumping lemma of regular sets. Closure properties of regular sets (proofs not required). Grammar Formalism: Regular grammars-right linear and left linear grammars. Equivalence between regular linear grammar and FA.
Module 3	
[10]	Context free grammar. Derivation trees, sentential forms. Right most and leftmost derivation of strings. Context Free Grammars, Ambiguity in context free grammars. Minimization of Context Free Grammars. Chomsky normal form and Greibach normal form. Pumping Lemma for Context Free Languages. Enumeration of properties of CFL. Closure property of CFL, Ogden's lemma & its applications. Push Down Automata: Push down automata, definition. Acceptance of CFL, Acceptance by final state and acceptance by empty state and its equivalence. Equivalence of CFL and PDA, interconversion. Introduction to DCFL and DPDA.
Module 4	
[6]	Turing Machine: Turing Machine, definition, model, Design of TM, Computable functions, Church's hypothesis, counter machine, Types of Turing machines Universal Turing Machine, Halting problem.

1.5 Any new Department/Centre introduced during the year. If yes, give details.   No

Criterion – II

2. Teaching, Learning and Evaluation

2.1 Total No. of
permanent faculty

Total	Asst. Professors	Associate Professors	Professors	Others
231	172	39	20	0

2.2 No. of permanent faculty with Ph.D.

47

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
172	0	39	5	20	2	0	0	231	0

2.4 No. of Guest and Visiting faculty and Temporary faculty

0   0   0

2.5 Faculty participation in conferences and symposia:

Department of Basic Science And Humanities

No. of Faculty	International level	National level	State level
Attended	18	5	2
Presented papers	18	5	2
Resource Persons	2		

Department of EE

No. of Faculty	International level	National level	State level
Attended	8	3	3
Presented papers	8	1	-
Resource Persons	Nil	-	2

Department of CSE

No. of Faculty	International level	National level	State level
Attended	5	7	-
Presented papers	5	4	-
Resource Persons	-	-	-

Department of EIE

No. of Faculty	International level	National level	State level

Attended Seminars/ Workshops	9	7	0
Presented papers	6	14	0
Resource Persons	0	0	0

Department of ECE

No. of Faculty	International level	National level	State level
Attended	**18**	**30**	
Presented papers		**6**	
Resource Persons	**6**		

Department of CE

No. of Faculty	International level	National level	State level
Attended	7	8	-
Presented papers	3	-	-
Resource Persons	-	-	-

Department of ME

No. of Faculty	International level	National level	State level
Attended	07	07	02
Presented papers	00	05	00
Resource Persons	00	08	00

Department of MCA

No. of Faculty	International level	National level	State level
Attended Seminars/ Workshops	3	9	
Presented papers	3	3	
Resource Persons		1	

Department of IT

No. of Faculty	International level	National level	State level
Attended	8	6	0
Presented papers	4	3	0
Resource Persons	0	0	0

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

Institute has developed over the years a transparent and objective oriented operation method of Continuous Evaluation System (CES). The system functions on

1. A printed Continuous Evaluation Track Book is circulated to all faculty members to keep track of the CES and administer the system. The record of stream wise, semester wise and batch wise teaching days, number of theory and laboratory classes along with section of the subject module taught and weekly tests or evaluation made are maintained in the diary. Any shortfalls on the part of the students are reported to the respective MENTORS by the respective faculty for initiating remedial action.
2. Each faculty members have their individual websites. From the commencement of semester , each faculty member plan and update lesson plan and corresponding delivery of lecture in their website.
3. Relevant questions, case studies etc and examination book and result are maintained regularly.
4. The entire system is monitored and evaluated by college management and panel of senior academicians and experts.

- As a part of CES two INTERNAL ASSESSMENT EXAMINATIONS per semester were conducted after having announced the dates sufficiently early with a common time table for all classes and with all teachers invigilating the examination. The first internal assessment examination during ODD Semester was conducted between 27th September 2016 to 29th September 2016 and the second test was conducted between 15th November 2016 to 17th November 2016 and during EVEN Semester dates were 21st March to 24th March 2017 and 17th May -19th May, 2017. General body of parent teacher meet is conducted after each internal test to assess the progress of students immediately after the first internal assessment examination.
- Tutorial system is planned, executed and monitored through sound planning and each day two/ three classes are allocated in the class routine for all the batches across all streams. The present batch size is restricted to 20 students per batch to provide one to one interaction opportunity.

2.7 Total No. of actual teaching days

during this academic year

| 189 |

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

| None. |

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

Each department has its own board of studies(BOS) consisting of all the faculty members and staff, Head of the department , one eminent academician, and one renowned industrialist for deciding the course of academics in the department. Both curriculum and syllabus are discussed in detail in this forum and subsequent changes are incorporated in the syllabus.

2.10 Average percentage of attendance of students

BS & HU Dept : 80%	EE Dept : 76%	CSE Dept : 78%
EIE Dept : 82%	Ece Dpet : 96%	CE Dept : 76%
IT : 80%	M.Tech:80%	Diploma:80%

2.11 Course/Programme wise distribution of pass percentage :

Title of the Programme	Total no. of students appeared	Division				
		Distinction(70) %	I %	II %	III %	Pass %
B.TECH (CSE)	505	10	80	10	0	100
B.TECH (IT)	59	45	59	0	0	100
B.TECH (ECE)	126	81	44	1	Nil	Nil
B.TECH(ME)	180	44	52	45	20	89.4
B.TECH (EE)	140	54	130	3	0	0
B.TECH (CE)	151	19	53	22	6	-
B.TECH (EIE)	25	10	15	0	0	100
M-TECH(CSE)	30	10	75	15		100
M.TECH (ECE)	6	6	0	0	0	0
M.TECH (EE)	15	14	15	0	0	0
M.TECH (CE)	18	83	17	-	-	-
MBA	20	1	15	2	0	0
MCA	68		90	7	3	100

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

The IQAC functions as an overall advisory body operating constantly for the betterment of the teaching learning process. The IQAC meetings often result in the emergence of new ideas which help invigorate teaching methods. IQAC serves notices regarding effective teaching plans, modules maintained by the department and regular departmental meetings to be held for a holistic improvement of the academic environment. Not only this, feedbacks from students are obtained from time to time to ensure the best quality of teaching. IQAC acts as a guide and moral boost to all the new ventures that the faculty members conceptualize for their students.

2.13 Initiatives undertaken towards faculty development

Basic Science & Humanitis Department

Faculty / Staff Development Programmes	Number of faculty benefitted
Refresher courses	
UGC – Faculty Improvement Programme	
HRD programmes	
Orientation programmes	
Faculty exchange programme	

Staff training conducted by the university 1. Staff Development Programme on Communication and Interpersonal skills, 19-24th September, 2016 2. Staff Development Programme on Professional Competence, 13-18th February	50
Staff training conducted by other institutions	
Summer / Winter schools, Workshops, etc.	
Others 1. Faculty Development Programme on Modern Trends in Teaching and Research Methodology, 18th -23rd July, 2016. 2. National Seminar on Application on Mathematics in Technology and Management (NSAMTM 2016), 8-9th September, 2016. 3. National Conference on ELT for Management &Technology: Recent Trends, 27-28th February, 2017. 4. National Conference on Modern Trends in Physics (NCMTP 2017), 3rd-4th March, 2017.	50 25 30 20

EE Department

Faculty / Staff Development Programmes	Number of faculty benefitted
Refresher courses	3
UGC – Faculty Improvement Programme	-
HRD programmes	19
Orientation programmes	4
Faculty exchange programme	2
Staff training conducted by the university	76(Under Teqip)
Staff training conducted by other institutions	2
Summer / Winter schools, Workshops, etc.	
Others	

CSE Department

Faculty / Staff Development Programmes	Number of faculty benefitted
Refresher courses	
UGC – Faculty Improvement Programme	
HRD programmes	1
Orientation programmes	
Faculty exchange programme	
Staff training conducted by the university	
Staff training conducted by other institutions	
Summer / Winter schools, Workshops, etc. 1. Workshop on "Research Methodology and Latex" (24th July- 28th october, 2016) under TEQIP Phase II; Organised by dept. of Computer Science and Engineering, NIT.	12

EIE Department

Faculty / Staff Development Programmes	Number of faculty benefitted
Refresher courses	0
UGC – Faculty Improvement Programme	9 (TEQIP sponsored workshop)
HRD programmes	1
Orientation programmes	1
Faculty exchange programme	0
Staff training conducted by the university	0
Staff training conducted by other institutions	0
Summer / Winter schools, Workshops, etc.	4
Others	4 One day Seminar

ECE Department

Faculty / Staff Development Programmes	Number of faculty benefitted
Refresher courses	**Nil**
UGC – Faculty Improvement Programme	**Nil**
HRD programmes	**Nil**
Orientation programmes	**Nil**
Faculty exchange programme	**Nil**
Staff training conducted by the university	**10**
Staff training conducted by other institutions	**Nil**
Summer / Winter schools, Workshops, etc.	**30**
Others(FDP)	**30**

CE Department

Faculty / Staff Development Programmes	Number of faculty benefitted
Refresher courses	3
UGC – Faculty Improvement Programme	NIL
HRD programmes	NIL
Orientation programmes	7
Faculty exchange programme	NIL

Staff training conducted by the university	NIL
Staff training conducted by other institutions	1
Summer / Winter schools, Workshops, etc. Industrial visit at building construction site of Simplex Infrastructure limited on 8th, 9th and 10th November 2016	6
Others 5. Department organised on subject domain programme for faculty development. a) Seminar on Environment & Disaster- Protection and practices on 30th March 2016. b) Dynamic analysis of structure with the support of STADD	10

ME Department

Faculty / Staff Development Programmes	*Number of faculty benefitted*
Refresher courses	07
UGC – Faculty Improvement Programme	00
HRD programmes	01
Orientation programmes	00
Faculty exchange programme	00
Staff training conducted by the university	00
Staff training conducted by other institutions	02
Summer / Winter schools, Workshops, etc. 2. Workshop on Bio-Chemical & Bio-Medical Engineering (28th July- 25th July, 2015) under TEQIP Phase II; Organised by dept. of Chemistry and EIE, NIT.	00

Others 6. Industry Visit	05

MCA Department

Faculty / Staff Development Programmes	*Number of faculty benefitted*
Refresher courses	0
UGC – Faculty Improvement Programme	0
HRD programmes	0
Orientation programmes	0
Faculty exchange programme	0
Staff training conducted by the university	0
Staff training conducted by other institutions	0
Summer / Winter schools, Workshops, etc. 5. 1 day workshop on Android and Java Programming for BCA students with EIE Department under TEQIP on 15th March, 2017 6. 1 day workshop on Android and Java Programming for MCA students on 1st April, 2017	2
Others 1. Industrial visit to PCS Global Pvt Ltd on 3rd March, 2017	1

IT Department

Faculty / Staff Development Programmes	Number of faculty benefitted
Refresher courses	2
UGC – Faculty Improvement Programme	
HRD programmes	
Orientation programmes	
Faculty exchange programme	
Staff training conducted by the university	
Staff training conducted by other institutions	3
Summer / Winter schools, Workshops, etc. 3. Workshop on Bio-Chemical & Bio-Medical Engineering (28th July- 25th July, 2015) under TEQIP Phase II; Organised by dept. of Chemistry and EIE, NIT.	2
Others 7. FDP & Industrial Seminar	8

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	45	-	6	2
Technical Staff	38	-	1	1

Criterion – III

3. Research, Consultancy and Extension

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

The Institution encourages faculty to actively participate in new and emerging areas of research. There are instances where faculty members are granted leave to participate in various workshops related to research methodology. Apart from this ,institute takes the following steps to promote research:
1. CII-NIT Innovation centre is established to promote students innovative ideas to incubation.
2. A faculty development programme on "Latex and its use in present day research" was organised.
3. Another FDP on "How to right a good paper" was organised to motivate faculty members towards research.
4. MOU was signed with ADS Foundation, Reliance and Tech Mahindra to improve industry related research work.
5. All the departments have submitted AICTE research promotion scheme.
6. Institute sponsors the registration fee of the conferences under TEQIP.
7. Faculty members after registration in PhD programme may avail extra leave under due permission of HOD and Principal, as per requirement of their research work and also to complete course work..
8. Research laboratories are equipped with modern equipments and high end software to promote research.
9. Research laboratories of the departments remain open for longer hours.
10. Library is equipped with various types of hard copy and e-books. There is also well organised depository of eminent professors'lectures, NPTL, e-journals.
.

3.2   Details regarding major projects

ECE Department

	Completed	Ongoing	Sanctioned	Submitted
Number	3	1		
Outlay in Rs. Lakhs	39.5	17		

Basic Science and Humanities

	Completed	Ongoing	Sanctioned	Submitted
Number		1		
Outlay in Rs. Lakhs		16.27		

3.3   Details regarding minor projects

ECE Department

	Completed	Ongoing	Sanctioned	Submitted

Number	**Nil**	**Nil**	**1**	Nil
Outlay in Rs. Lakhs	-	-	**3.85Lac**	

Basic Science and Humanities

	Completed	Ongoing	Sanctioned	Submitted
Number	2		3	
Outlay in Rs. Lakhs	5.98		8.95	

3.4. Details on research publications

EE Department

	International	National	Others
Peer Review Journals	3	-	-
Non-Peer Review Journals	-	-	-
e-Journals	4	-	-
Conference proceedings	2	6	-

ECE Department

	International	National	Others
Peer Review Journals	**16**	**Nil**	**Nil**
Non-Peer Review Journals	**Nil**	**Nil**	**Nil**
e-Journals	**20**	**Nil**	**Nil**
Conference proceedings	**22**	**21**	**Nil**

ME Department

	International	National	Others
Peer Review Journals	02	00	00
Non-Peer Review Journals			
e-Journals			
Conference proceedings	01	05	00

MCA Department

	International	National	Others
Peer Review Journals	1		-
Non-Peer Review Journals	-	-	-
e-Journals	-	-	-
Conference proceedings	6	4	-

CE Department

	International	National	Others
Peer Review Journals	2	-	-
Non-Peer Review Journals			
e-Journals			

Conference proceedings	3	2

Science and Humanities Department

	International	National	Others
Peer Review Journals	10		
Non-Peer Review Journals			
e-Journals			
Conference proceedings	17	20	

CSE Department

	International	National	Others
Peer Review Journals	7		
Non-Peer Review Journals			
e-Journals			
Conference proceedings	5	2	

EI Department

	International	National	Others
Peer Review Journals	8		
Non-Peer Review Journals	4		
e-Journals	7		
Conference proceedings	25	15	

IT Department

	International	National	Others
Peer Review Journals	38	5	
Non-Peer Review Journals			
e-Journals	1		
Conference proceedings	4		

3.4   Details on Impact factor of publications:

EE Dept

Range 3.1-4.5 Average 3.3 h-index 1.2 Nos. in SCOPUS 1

ECE Dept.

Range 0.5-8.0 Average 3.0 h-index 5.0 Nos. in SCOPUS 6.0

ME Dept.

Range 0-0.435 Average 0.435 h-index 19-38 Nos. in SCOPUS 01

MCA Dept.

Range 0.5-2.0 Average 1.5 h-index 3 Nos. in SCOPUS 0

CSE Department

Range [ ] Average [ ] h-index 2 Nos. in SCOPUS 4

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

ECE Dept.

Nature of the Project	Duration Year	Name of the funding Agency	Total grant sanctioned	Received
Major projects	**Nil**			
Minor Projects	**1**	**UGC**	**3.85Lac**	**Yet to be received**
Interdisciplinary Projects				
Industry sponsored				
Projects sponsored by the University/ College	**2**	**JIS Group**	**1.0 Lac**	**Yet to be received**
Students research projects *(other than compulsory by the University)*				
Any other(Specify)				
Total				

Basic Science and Humanities Department

Nature of the Project	Duration Year	Name of the funding Agency	Total grant sanctioned	Received
Major projects	3	Department of Atomic Energy – BRNS		Rs 16.27 lakhs

Minor Projects	2	UGC	Rs 4 lakhs	
	2	UGC	Rs 3 lakhs	
	2	UGC	Rs 1.95 lakhs	
Interdisciplinary Projects				
Industry sponsored				
Projects sponsored by the University/ College				
Students research projects *(other than compulsory by the University)*				
Any other(Specify)				
Total			Rs 8.95lakhs	Rs 16.27 lakhs

3.7 No. of books published   i) With ISBN No.   [6]   Chapters in Edited Books   [5]

ii) Without ISBN No.   [NIL]

3.8 No. of University Departments receiving funds from   [NIL]

UGC-SAP [ ]   CAS [ ]   DST-FIST [ ]

DPE [ ]   DBT Scheme/funds [ ]

3.9. For colleges   Autonomy [√]   CPE [ ]   DBT Star Scheme [ ]

INSPIRE [ ]   CE [ ]   Any Other (specify) [ ]

3.10 Revenue generated through consultancy   [Rs **22,000/-**]

3.11. No. of conferences   organized by the Institution

Level	International	National	State	University	College
Number	1	4			1
Sponsoring agencies	TEQIP	TEQIP			Institute of Engineers

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

3.13 No. of collaborations 25   International [02]   National [23]   Any other [ ]

3.14 No. of linkages created during this year   [4]

3.15 Total budget for research for current year in lakhs :

From Funding agency | 78.39 | From Management of University/College | 30

Total | 108.34

3.16 No. of patents received this year

Type of Patent		Number
National	Applied	6
	Granted	6
International	Applied	0
	Granted	0
Commercialized	Applied	0
	Granted	0

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
1	-	-	1	-	-	-

3.18 No. of faculty from the Institution
who are Ph. D. Guides | 04
and students registered under them | 04

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

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

JRF | 2 | SRF | | Project Fellows | 1 | Any other | 1(Part Time)

3.21 No. of students Participated in NSS events:

University level | 360

State level | 102 | National level | | International level |

3.22 No. of students participated in NCC events: Not yet.

University level | | State level |

National level | | International level |

3.23 No. of Awards won in NSS: Not Yet.

University level ☐ State level ☐

National level ☐ International level ☐

3.24 No. of Awards won in NCC: Not Yet.

University level ☐ State level ☐

National level ☐ International level ☐

3.25 No. of Extension activities organized

University forum	21
College forum	32
NCC	NIL
NSS	3
Any other	16

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

- Tree plantation programme was organised by the students quite successfully.

- A blood donation camp was organised to inculcate social responsibility in student body.

- Distribution of books, copies to economically challenged local children.

- Eye testing camp of students and local people.

- Mini marathon with the students for Women's day celebration involving local school students.

- Visit to local orphanage by the faculty, staff and students.

- Visit to local old age home by the faculty ,staff and students.

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	26395sqm	-	Management	26395
Class rooms	49	-	Management	49
Laboratories	81	--	Management	81
Seminar Halls	02	-	Management	02
No. of important equipments purchased (≥ 1-0 lakh) during the current year.	12	5	Management	-
Value of the equipment purchased during the year (Rs. in Lakhs)	949.98	58.07	Management and TEQIP	100.80

4.2 Computerization of administration and library

- Library has arranged for access to e-journals & books through intranet.
- Publications of faculty and students can be accessed.

4.3 Library services:

	Last Year 15-16		Newly added 16-17		Total	
	No.	Value	No.	Value	No.	Value
Text Books	2417	507519	2500	533032	4917	1040551
Reference Books	110	97800	252	199600	362	297400
e-Books	800	1589058 1944101 = 3533159			800	3533159
Journals						
e-Journals	Elsevier IEEE	562273 648456 = 1210729	IEEE	1258523	435	2469252
Digital Database						
CD & Video						
Others (specify)						

Programmes organized by the library (2016-17):

1. Organized 2 days TEQIP sponsored National Seminar on "Information Resource Management: Role of modern technologies", 2017
2. Organized a Book Fair at the Library & Documentation centre, 2017.

4.4 Technology up gradation (overall)

	Total Computers	Computer Labs	Internet	Browsing Centres	Computer Centres	Office	Depart-ments	Others
Existing	950	23	35 Mbps	2	1		IT, CSE, CA, EE, ECE	
Added	91(new replaced old PCs)	2	0	0	0		0	
Total	950	23	35 Mbps	2	1			

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

> 1. Research Methodology and Latex.
> 2. One day seminar on "Cryptography"
> 3. One day seminar on DCS.
> 4. 2 day industrial seminar on "Business Intelligence".

4.6 . Amount spent on maintenance in lakhs :

   i)   ICT   0.94

   ii) Campus Infrastructure and facilities   35.19

   iii) Equipments   44.57

   iv) Others   15.32

                                   Total :   55.92

Criterion – V
5. Student Support and Progression

5.1 Contribution of IQAC in enhancing awareness about Student Support Services

> 1. To inform the students about various scholarships and awards instituted by the college and other well-wishers through college handbook and calendar and also through college website.
>
> 2. Identify and nurture the innovative minds through incubation centre. Technical, financial supports are provided to the students to build the prototype model.
>
> 3. Supports are provided to students for patent and commercialization of the prototype.
>
> 4. Encourage all U.G. students to undergo GATE/ MAT/ CAT training. Class teachers may collect the names and hand it over to the coordinator.
>
> 5. Progression and Placement data to be updated every year.

5.2 Efforts made by the institution for tracking the progression

> The college has a formally stated quality policy inferring to its progression. The policies are discussed and reviewed in the IQAC meetings as and when required. Implementation of the plans depends upon various factors such as the financial approval, state laws, university statutes, etc. Policies are executed by the Teacher-in-Charge with the help of administrative section and concerned section head. IQAC monitors the proper functioning and maintains quality assurance of the Institution.

5.3 (a) Total Number of students:

UG	PG	Ph. D.	Others
3127	127	0	

(b) No. of students outside the state

299

(c) No. of international students

0

Men

No	%
2516	77.32

Women

No	%
738	22.68

Last Year						This Year					
General	SC	ST	OBC	Physically Challenged	Total	General	SC	ST	OBC	Physically Challenged	Total
2506	176	14	258		2954	2693	196	13	276		3178

Demand ratio   150%   Dropout 2.33%

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

BS & HU Department

1. To prepare students of different disciplines for GATE by giving training in Mathematics, Chemistry and Physics
2. To prepare students of different disciplines for CAT, GMAT, TOEFELL etc. by giving training in Mathematics and English

No. of students beneficiaries

600 approx

EE Department

GATE coaching for 2nd and 3rd year students every year through evening classes.

No. of students beneficiaries

600 approx

CSE Department

Students are trained by faculty members with specific routines. All the classes are scheduled after the college hours. Quality study materials are provided subject wise. Target domain of student is 3rd year.

No. of students beneficiaries

130 approx

EIE Department

1. Gate Classes arranged

2. Dibyendu Sur is a member of Placement Committee of Narula Institute of Technology

3. Susmita Das is a member of Training Committee of Narula Institute of Technology

No. of students beneficiaries

110

ECE Department

We conduct coaching classes of different subjects as per GATE syllabus every year for 2nd and 3rd year students. The duration of each class is two hours where we discuss problems with necessary theory followed by a MCQ based test.

Interested students are encouraged to form groups and provided area/module/topicspecific guidance for competitive exams by respective faculty member.

Soft skills and area/opportunity specific coaching with mock interviews involving all faculty members in preparation of students for entrance exams

No. of students beneficiaries | 80 |

CE Department

- GATE &
- Ready to appear in Govt. Service Exam.
- Ready to appear Service Exam.

No. of students beneficiaries | 09 | Higher studies   5 Nos. (M. Tech.)

                                                      2 Nos. (MBA)

                                       Govt. Service   2 Nos. (in KMDA)

.5 No. of students qualified in these examinations

NET | 1 | SET/SLET | NIL |

GATE | 20 | CAT | 6 |

IAS/IPS etc | NIL | State PSC | NIL |

UPSC | 1 | Others | 3 |

5.6 Details of student counselling and career guidance

BS & HU Department

1. Mentorship of 1st year students of all disciplines.
2. Evaluation Tests in Science and Humanity for students of all disciplines in order to measure their gradual improvement in the subjects concerned.
3. Week student identification in Science and Humanity. Remedial classes conducted for improvement and enhancement of knowledge in the Subject concerned.
4. Conduction of Training classes in Analytical Ability, Reasoning & Communication skills for 3rd and 4th year students for Campus drives of different companies.

No. of students benefitted   650 Approx.

EE Deaprtment

One full day Student Counselling and career guidance sessions are held every semester at the department level. At the Institute level, these sessions are held for at least 10 days in every semester.

No. of students benefitted   600 Approx.

CSE Deaprtment

- Students are trained for the GATE exam after shcedule class hours
- Technical training for the campusing is provided from department and institute as well
- Mock tests are conducted to improve soft and technical skill of the students
- Training programs, workshops are conducted so that the students have the knowledge of the new technologies.
- Guest lectures, delivered by academicians and industry professionals are conducted for the benefits of the students
- Week student identification and Remedial classes conducted for improvement and enhancement of knowledge in the Subject concerned.

No. of students benefitted   130 Approx.

EIE Department

Students from 1st yr to 4th yr are motivated for higher studies and job opportunities with proper career guidance and teaching. Students from 1st yr to 4th yr are motivated to perform some project work and publish papers in national & International Journals & conferences.

No. of students benefitted   165

ECE Department

•A set of 5 students of each section of each class are assigned to a faculty member as a mentor to ensure constant individual student monitoring of academic and personal progress.
•The mentors maintain an individual file for each student and keeps constant track of the progress of student.
•The mentors are also the point of contact between the department and the students' parents/guardian. They keep the parents abreast of the events in case of any problems, or concerns.
•The practice of assigning a Faculty Coordinator to each class gives an assurance to the students of a 'one point contact' for any clarification required.
•Batch Coordinators/TICs interact with the students of the respective class.
•Regular counselling of students.
•Counselling status being continuously updated in student counselling diary for each student. This is maintained for the complete course duration of B.Tech. Program, in order to have a track of student progress in academic, extracurricular and emotional aspects.
•Display of counselling periods in special time table in departmental Notice board. Counselling periods increased from 1 to 2 periods.
•The departments assist the students towards exploring their career options. Orientation sessions are organized for students during their early days at the department highlighting the various opportunities. Equal emphasis is given on 'research as a career'.
•Whenever an alumnus of repute visits the department, the department organizes a session for the alumni to interact with the current students on various avenues and opportunities for choosing their career. Through this process students get immensely motivated towards their career. The students are well informed about the opportunities and challenges. This helps the students in choosing their career options.
•Faculty members frequently provide guidance on best options based on student performance, interest, aptitude and merit.
•Regular updates on school notice boards of new opportunities and announcements. Frequent updates on school website of new positions, fellowshipopportunities/ announcements.
•At the time of joining, orientation programmes were conducted with regard to the course, curriculum, teaching and learning process, rules and regulations in the campus etc.
•Assignments and special coaching are provided to slow learners.
•Encouraged to perform group projects.

No. of students benefitted   480

CE Department

About 40 Student appeared in special tutorial Classes and guided for technical advancements

No. of students benefitted

32

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
95	797	491	35

5.8 Details of gender sensitization programmes

- **Seminar on Creating awareness by prevention and intervention among women on pertinent health issues, 11th August, 2016**

The seminar was specially organized to create awareness and spread knowledge among all the women employees and students of the institute.More than 150 women Students, Faculty & staff member participated in the Seminar. The Seminar was started by a very positive encouraging introductory speech delivered by our respected Principal madam Dr.Maitreyi Ray Kanjilal who boosted up the minds of all women present in the auditorium to feel proud being a woman. She pptrayed that woman should be strong and resistant in nature to face all the difficulties whether its physical or mental & should have her aspirations, abilities, qualities to build up a firm position in our society.

The seminar was carried & took over by invited guest of the program Dr.GandhariBasu, who was an assistant professor in Department of Community Medicine perused her MBBS from R.G. Kar Hospital. She started by giving us a very logical importance of woman in our society. Women contributions enormously in the field of health care as well as now a days they are coming forward & taking initiatives in social activities& are working for the betterment of the society. As a mother, a woman's role in the development of emotional psychological aspect of new born child has been very significant . They are not only handling corporate life, working in various govt. offices, schools, colleges providing education & working for the welfare of the society but also they take proper care of their own responsibilities of being a women in totality by taking care of her husband, parents-in-laws, children. So in this urge of fulfilling her responsibilities in both personal &professional life, a woman often forgets or neglects to take care of their own health which gives rise to various health problems which in turn may cause minor or major effects within themselves if not properly taken care at the right time. So, the lead emphasis on pertinent health issues of the women.

- **One day practice session of scooty "Be Bold for Change", 1st March, 2017**

This year International Women's Day theme is "Be Bold for Change". Women's Cell Narula Institute of Technology organized a practice session of scooty in association with Honda. Students and stuff members participated with full enthusiasm in this occasion. Dr.DebjaniChakraborti, Chairman, Women Cell inaugurated the program. Other committee members- Mrs Sangita Roy (Convener) and Dr.SriparnaGuha were also present in the field. The program was a grand success. The main objective of the program was Women Empowerment. The total number of participants was 60 including the students, faculty and staff members of NiT.

The participants got individual scope to ride on the scooty and practice on their own with aid of the Instructor and the trainers from Honda. The participants were immensely enthusiastic and overwhelmed to learn to ride for the first time. The Instructor and the trainers were very friendly and helped the participants to the optimal level.

- **Participation on International Women's Day Celebration, 8th March 2017 at Barrackpore Police Commissionerate Sukanta Sadan Barrackpore**

Barrackpore police commisionerate invited Girls students of Narula Institute of Technology on the International Women's Day, 8th March, 2017. In this occasion Girl students of NiT along with Women Cell , NiT attended one day program on International Women's Day organised by Barrackpore police commisionerate at SukantaSadan. The eminent dignitaries present on the occasion are:

1. Dr.RajkumariBasu, Child Phycologist
2. Mr.Amitabah Barman, IPS,DC,Barrackpore
3. Mr.TathagataBasu, IPS,DC,Barrackpore
4. Mr.PyushKantiGoswami, MahakumaSasak, Barrackpore

The respected notable personalities expressed the significance and importance of women in our society. They noted that the respect, dignity of women is the highest priority in our society. A women's Psychological health also is a great concern of mankind. Dr. R Basu pointed in this area. Lots of steps have been taken by Government in this respect. The Police is always alert for the assistance of women.

Question answer sessions were there for interactions with students of different schools and colleges. At the end a cultural program was organized by local school students. The theme of the program was to promote women protection, national integration, and importance of karate learning. The cultural program comprised of poem recitation, dance, song and small acting sessions.

Students entering the auditorium-SukantaSadan

The dignitaries on the dias

Beautiful Bus Journey with Mrs.KaberiMajumder, Khardah Police Station

- **Marathon on Women's Day, 8th March, 2017**

The Marathon was inaugurated by Principal Madam Prof. Dr. M R Kanjilal and Registrar Madam Mrs.Nidhi Singh at Kamarhati, Agarpara, at 3:30 pm. The Participants were Students of NiT, Local schools, Local residents, faculty& Staff members of NiT. The program was followed by cultural program.

Lighting the torch by Principal and Registrar

Lighting the torch by Participants

The enthusiastic participants

Cultural program

- **One Day Seminar on Women Empowerment through Technical Education, 15th March 2017**

The seminar was specially organized to emphasize on women empowerment through technical education. More than 60 female students participated in the Seminar. The Seminar was inaugurated through lighting of the lamp by Principal Madam Dr. Maitreyi Ray Kanjilal; the invited speaker Mrs Sunanda Mukherjee, chairperson, Women Commission, West Bengal and Dr.DebjaniChakraborti, Chairperson Women cell, NiT. The Seminar started by a very positive encouraging introductory speech delivered by our respected Principal madam Dr.Maitreyi Ray Kanjilal who boosted up the minds of all women present in the auditorium to feel proud being a woman. She emphasized that if the women in the society is awakened, the nation as a whole is on the move. This can only be done by providing education to women in every sphere of life.

Lighting the of lamp

The chairperson women cell of NiT, Dr.DebjaniChakrabarti, explained the importance of women cell in educational institutions. She then invited Principal, NiT and Chairperson, Women commission, WB to in augur ate the Newsletter of Women Cell "SWAYAM SIDDHA".

Inauguration of Newsletter "SWAYAM SIDDHA"

The seminar was carried & took over by invited guest and Eminent Speaker of the program Mrs Sunanda Mukherjee, chairperson, Women Commission, West Bengal. She enlightened about the significanceof women empowerment in our society. She started by giving us a very logical importance of woman in our society. They are not only handling corporate life, working in various govt. offices, schools, colleges providing education & working for the welfare of the society but also they take proper care of their own responsibilities of being a women in totality by taking care of her husband, parents-in-laws, children.

The next invited speaker Dr.SikhaSarkarAditya, Member, Women Commission delivered her speech on significance of women Empowerment and revolution that had taken place in empowering women since inception.

After the lunch session, the next invited speaker Dr.SheliSinhaChaudhuri, Associate Professor, ETCE Department, Jadavpur University elaborated the role of women in technical education.

The entire program was compared by the Convener of women cell, Mrs Sangita Roy. The Seminar ended with the vote of thanks delivered by Dr.DebjaniChakraborti.

5.9 Students Activities

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

State/ University level | 01 | National level | 01 | International level | 01 |

No. of students participated in cultural events

State/ University level | 60 | National level | 01 | International level | |

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

Sports : State/ University level | 02 | National level | 01 | International level | |

Cultural: State/ University level | 20 | National level | 01 | International level | |

5.10 Scholarships and Financial Support

	Number of students	Amount(INR)
Financial support from institution	120	80,80,000
Financial support from government	16	10,45,000
Financial support from other sources	5	7,85,000
Number of students who received International/ National recognitions	-	-

5.11   Student organised / initiatives

Fairs   : State/ University level   `02`   National level   `   `   International level   `   `

Exhibition: State/ University level   `02`   National level   `   `   International level   `   `

5.12   No. of social initiatives undertaken by the students   `05`

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

Criterion – VI

6. Governance, Leadership and Management

6.1 State the Vision and Mission of the institution

Mission

To impart high quality Engineering and Management education to the budding professionals and provide the ambience needed for developing requisite skills to make a mark of excellence in Education, Business and Industry.

Vision

To develop responsible citizens who would 'think global and act local' and become the change agents of society to meet the challenges of future.

6.2 Does the Institution has a management Information System

The entire administrative system runs on an Integrated ERP System controlled centrally. The staff attendance, leave accounts and applications are recorded through ERP. The accounts and pay roll operations totally runs through the ERP. Purchase, store are an integral part of the ERP. All sections of the office are fully computerized.

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

6.3.1. Curriculum Development

ECE Department

Curriculum for B-Tech (ECE), M-Tech (Communication) has been restructured.

The Department follows a systematic process in the design and development of the curriculum. Syllabus is subjected to periodic updates. Feedback from each course teacher is collected by the respective coordinators which is consolidated and forwarded to the Board of Studies to be considered at the time of revision. Feedback from employers and alumni gives direction on the required modifications to be made in the syllabus. Subject experts both from academia (Professors from other Universities) and industry who are on the Board of Studies are consulted before revision of syllabus.The Board of Studies frames the curriculum and the detailed syllabi of each program, after the discussion among its members. The suggestions of the board will be taken up by higher bodies such as Committee for PG Programs and Academic Council. •Departments introduce new electives in emerging areason a regular basis as per current and projected needs.In our department the curriculum revision also takes inputs from additional sources like ACM IEEE-CS Curricula,MIT Open Course Ware, Coursera,etc. Faculty members areasked to maintain a separate file regarding the changes needs to be made in the next curriculum revision based on their day-today experience with the course content & current issues.Internships: Compulsory for PG StudentsCourses comprisesLectures/Tutorials/Labs.

Seminars/Group Discussions/Presentations are highly encouraged Enrichment courses to support regular academic courses, Soft skillstraining programme for final year UG and PG students, Culturaleducation classes to inculcate social, ethical and moral values.

Special guidance is given to students for qualifying exams like GATE.

BS & HU Department : Module-wise Development and Structuring of Syllabi of Subjects such as Chemistry, Physics, Mathematics and English for B.Tech and M.Tech 1st year students.

EE Department : Meeting of Board of Studies is held every semester.

CSE Department : Curriculum is developed for autonomy with proper BOS meetings and with the involvment of all the faculty members of the CSE department.

EIE Department : New curriculum has been developed for the Autonomy syllabus.

6.3.2. Teaching And Learning

1. Departmental meetings are arranged periodically to review the progress of the academic plan for the current year. Appropriate measures are taken through extra classes.
2. Preparation of objective driven teaching plan.
3. A detailed lesson plan in accordance with the learning objective is prepared.
4. It is recorded t in the register and kept in the department and teacher's diary.
5. Evaluation of teachers by students are conducted periodically through online systems and is intimated personally.
6. Class analysis of each faculty member is conducted annually by external expert. Expert comment/ suggestions are shared with the faculty members for improvement.
7. Internal academic audit is conducted.

6.3.3 Examination and Evaluation

1. In each semester two class tests are conducted.
2. End semester examinations are conducted twice in a year. One in May-June and the other in Nov-Dec.
3. University forms a list of competent examiners for evaluation.
4. Students can also review their copies through proper channel and procedure.

6.3.4 Research and Development

1. Staff members are motivated to take up UGC Research Projects (Major and Minor), AICTE RPS, DST, DAE and publish research articles, apply for patent.
2. Students are motivated to opt for research based projects in final year which helps to inculcate research aptitude among the students.
3. All the departments have been equipped with computer and internet facility.
4. Encouragement is given to faculty members to attend international/national conferences/symposia/seminars.
5. Institute organises International /National conference/seminar/workshops on a regular basis.

6.3.5 Library, ICT and physical infrastructure / instrumentation

1. Library is of 950 Sq.m
2. Central computing facility of 440 Sq.m.
3. 81 laboratories and 49 class rooms with all modern equipments and necessities.

6.3.6 Human Resource Management

1. Periodical staff meetings are conducted.
2. Different committees are constituted and continued like BOS etc for effective functioning of the departments.
3. Non teaching staff is given training in file management, clerical and secretarial works.

6.3.7 Faculty and Staff recruitment

The procedure of faculty and staff recruitment is as follows:

1. Applications are invited for the vacant posts through advertisement in the leading news papers.
2. A selection committee, consisting of external members, interviews the candidate and prepares a panel, promising for the filling up of the vacant posts.
3. As per the recommendation of the selection committee , the HR personnel offers the appointment letter to the candidates for their consent to join in the position they have been selected for.
4. A candidate joining in the institute is kept at probation for 2 years.
5. After successful completion of probation period, an appraisal committee reviews and recommends the candidate for permanent recruitment.

6.3.8 Industry Interaction / Collaboration

Campus drives were conducted with the following industries:

1. ABSAS Solutions Pvt. Ltd.
2. AAyuja Technologies.
3. Unisys.
4. IT Business Guru.
5. SIBIA Analytics and Consulting Services PL.
6. EffiaSoft Private Limited.
7. InfoCognitio.
8. WIPRO-GIS Division.
9. Trigent Software.
10. Panorama.
11. US Tech Solutions.
12. Beas Consultancy and services Pvt. Ltd.
13. Microland.
14. MAQ software.
15. Pratian Technologies(India) Pvt. Ltd.
16. Eden Realty Group.
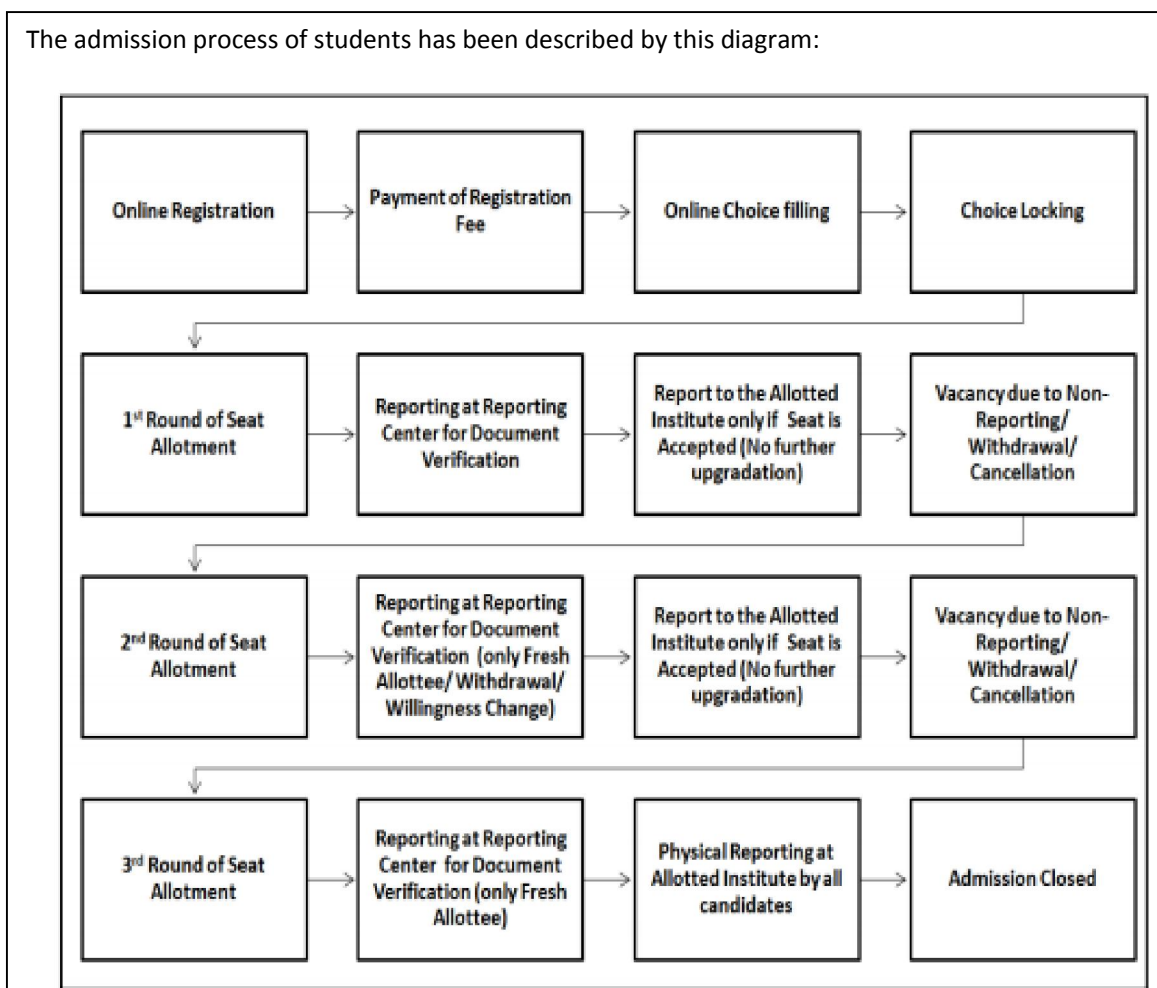17. CMC.
18. TCS
19. Kreeti Technologies Pvt.Ltd.

Industry interactions were conducted with the following companies

1. Energy management Ltd.
2. Info Technology Ltd.
3. CESC Ltd.
4. Power ministry of West Bengal.
5. ORACLE.
   A total of 82 interactions have been made with industry in 2016-2017.

6.3.9 Admission of Students

The admission process of students has been described by this diagram:

Online Registration	→	Payment of Registration Fee	→	Online Choice filling	→	Choice Locking

1st Round of Seat Allotment	→	Reporting at Reporting Center for Document Verification	→	Report to the Allotted Institute only if Seat is Accepted (No further upgradation)	→	Vacancy due to Non-Reporting/ Withdrawal/ Cancellation

2nd Round of Seat Allotment	→	Reporting at Reporting Center for Document Verification (only Fresh Allottee/ Withdrawal/ Willingness Change)	→	Report to the Allotted Institute only if Seat is Accepted (No further upgradation)	→	Vacancy due to Non-Reporting/ Withdrawal/ Cancellation

3rd Round of Seat Allotment	→	Reporting at Reporting Center for Document Verification (only Fresh Allottee)	→	Physical Reporting at Allotted Institute by all candidates	→	Admission Closed

6.4 Welfare schemes for

Teaching	Soft loan provided by institute
Non teaching	Soft loan provided by institute
Students	Fee waiver for meritorious and needy students.

6.5. Total corpus fund generated   **Rs. 31,37,172/-**

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	-	Yes	JIS Group
Administrative	Yes	-	Yes	JIS Group

66.8 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?

Under autonomous framework, the Institute has separate Board of examinations for UG and PG courses. Each board of examination has been constituted following the regulations of the Institute (Reg. 4 (B.E.) & Reg. 4 (B.E.)) with the Controller of examination as the ex-officio Secretary. Regular meeting of either board of examinations are held and decisions are transmitted to the academic council for final approval. Noteworthy, modifications has been introduced in the examination systems under autonomous framework and there are specified rules for examination . According to these rules, each paper under UG courses would be set, examined and moderated by external expert approved by Board of Studies of the concerned department.
Apart from these, reforms in written examinations, continuous evaluation system has been introduced with relevant marks which is reflected in internal marks (30% of total marks). Innovative method of testing students' performance such as quizzing, group discussions are encouraged for evaluation. Moreover in practical classes continuous performance evaluation is included as a part of evaluation system.

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

The institute in already autonomous and affiliated to MAKUAT.

6.11 Activities and support from the Alumni Association

Activities
1) AGM (yearly)
2) Alumni Meet
3) Friendship Football Match (Alumni vs Current Students)
4) Friendship Cricket Match (Alumni vs Current Students)
5) Exhibition and Seminar by eminent personality
6) Frequent meet through different formal meetings
Support
7) Technical lectures by Alumni regularly.

6.12. Activities and support from the parent teacher association

BS & HU Department
1. Parent-Teacher Meet if and when required for regularising the discipline of the students concerned.
2. Addressing Parents of 1st year students in the Induction Program to welcome them and give information about course structure, curriculum and overall discipline of the students.

EE Department
Guardians' meetings are held once in every semester to review class attendance and performance of students.

CSE Department
1. Mentorship scheme is going on for all students.
2. Student meet with their respective mentors to discuss different issues regarding the academics and extra carricular activities.
3. The parents are informed and meeting with respective mentors are conducted if needed.

EIE Department
Continuous process of parent-teacher communication via meetings, telephonic conversations are done. Mentors' meet is conducted twice in a month.

ECE Department
Parent online feedback mechanism is running in the department. Parent-Faculty meeting session held ones in semester regarding academic progress of student. Each Faculty member acts as Mentor for a group of students. Parents also contact with respective mentor of their ward regarding academic issues.

CE Department
Very positive and attentive.

6.13 Development programmes for support staff

> 2 TEQIP sponsored programmes were organised :
>
>   1. Communication and Interpersonal Skills   2. Professional Competence.

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

> 1. Two separate wastage bins are maintained for bio degradable (green colour bin) materials and non bio degradable (yellow colour bin)   materials respectively.
> 2. Maintenance of garden, playground, auditorium, gymnasium, sports room.
> 3. Adherence to the E-Waste (Management and Handling) rules, 2011, as laid down by Ministry of Environment and Forests. E- Waste materials are disposed in collaboration with Ramky E-Waste Recycling facility.

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.

> 1.Online course materials have been prepared and made available in institute's website for the students. 2.Under autonomous framework, every department/stream/subjects related to the undergraduate and postgraduate courses of the Institute have its own Board of Studies (BOS) with Head of the concerned department as the Chairman and all whole-time teachers of the Department as members. Two external experts nominated by the Academic Council, one representative from industry/corporate sector and one University nominee are also the members of the BOS. Regular meeting of the BOS is held and after getting autonomous status initiatives have been taken to restructure and redesign the curriculum of the respective UG and PG courses. Accordingly, intradepartmental, interdepartmental meeting (in specific cases) has been organized to clarify objective and outcome of the respective courses, followed by meeting of BOS and Academic council. New course curriculum has been prepared keeping into account the existing curriculum of the reputed Institute, outcome of the course concerned and learners need about the course. A learner centric approach has been introduced in the revised curriculum. Consequently the syllabus of each subject has been prepared. This revised curriculum has become operative from the session 2015-16 1st year students. Also 3rd and 4th semester syllabus has been prepared and approved. All the online course materials have been uploaded which helped for flipped learning classes. Academic Review and Performance Evaluation, Internal academic audit for the current academic year was conducted in 2016 . Industry driven training programmes have been organised to improve employability of the students.

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

To note and ratify action report pursuant to proceeding of the AQAR2015- 2016

Sl.No.	Agenda No	Agenda Notes	Resolution	Action Taken
1	Agenda – 1	Keep the campus clean as part of the association activity.	As a part of this process the campus has been declared as plastic free zone on July 2016. To organise seminars, workshops with the theme of "Swachha Bharat".	The cleaning of the campus is continuously monitored by the staff of the institute. Seminars, sensitization programmes have been organised.
2	Agenda - 2	To prepare for NBA visit for the eligible courses B.Tech CSE, M.Tech CSE, ECE, EE-Power System	Target to obtain NBA accreditation of all the eligible programmes for 2016-2017. Arrange the mock visit before NBA experts' evaluation.	One week training programme on "Quality assurance parameters of NBA" has been organised. Mock visit was organised before the NBA visit. All the programs- B.Tech CSE, M.Tech CSE, ECE, EE-Power System obtained NBA Accreditation in November,2016.
3	Agenda -3	Introduce innovative and unique practices by each department for the welfare and academic excellence of the students.	Industry driven training programmes for all the departments have to be proposed and implemented. Each department must select a premiere institute in order to standardise its own benchmark towards excellence.	Industry driven training programmes such as "Souramitra" by ADS foundation, training on communication by Reliance have been arranged. Each department has developed benchmarks which they are to follow in the coming semesters. Faculty and staff of each department went through refresher courses/ trainings.

4	Agenda - 4	Tree plantations to be done on regular basis in and outside the campus in coordination with local municipality.	Under NSS activity, tree plantation programme should be practised regularly. The support staff should periodically maintain the planted trees in the campus.	Additional trees have been planted inside and outside the campus to increase the greenery .
5	Agenda - 5	Through website committee, all program, information and achievements will be put on website.	Website has to be updated by continuous monitoring of the department.	Website has been updated with the information like NIRF ranking, NBA accreditation of the institute. All the departmental information is available in the website along with institution level information. The website has been enriched with online course materials.
6	Agenda - 6	Continue Publish manuscript magazines centrally as well as by all departments.	Departments need to publish departmental news letter.	All the departments have published their newsletter. Women's Cell has published their magazine.
7.	Agenda-7	Budget Proposals from all departments to be centrally integrated with a clear and transparent policy.	All the departments should submit their budgets on time. All the committees budgets should be accumulated.	Departments have submitted their budgets. All the committees and subcommittees have their own budget. Based on the above two, institutional budget has been prepared.
8.	Agenda-8	Enhance the functioning of the Grievance & Redressal Committee, Disciplinary Committee, Anti Ragging	Strengthen the Grievance & Redressal Committee, Disciplinary Committee, Anti Ragging Committee by involving local administration.	Grievance & Redressal Committee, Disciplinary Committee, Anti Ragging Committee have been strengthened involving local administration.

		.Committee..		The campus is ragging free.
9.	Agenda 9	Keep the files up to date and provide necessary information to the IQAC.	To keep the AQAR files updated and prepare AQAR for 2016-2017.	AQAR of 2015-2016 has been prepared and submitted. AQAR of 2016-2017 has been completed and will be uploaded in the website soon.

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

Refer to Annexure 1B

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

7.4 Contribution to environmental awareness / protection

1. Regular campaigning through road shows, posters, graffiti by students in and outside the campus to improve awareness about tree plantation, Swine flu etc. among the students and local community people.

2. During the technical festival of the institution several models and posters have been prepared by the students to increase awareness on several environmental issues. Tree plantation is also done by the Principal to increase awareness on the issue.

7.5 Whether environmental audit was conducted?   Yes [ ]   No [√]

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

STRENGTH
- Good location of the Institute
- NAAC Accreditation, NBA accreditated Programs, Autonomous status, MOU with different industries and institutes
- Dedicated and qualified Faculty and staff members
- Alumni Association
- Well equipped advanced laboratories and high-end Software
- Well furnished centralized computer labs with LAN connection
- WiFi facilities
- Library with large number of Hard copy and soft copy books with different titles for different branches
- Specified reading rooms for students and faculty members in the library
- Hard copy and online Journals, Repository of NPTEL online lectures
- World Bank funded TEQIP Project ,Research Project of DAE, Govt. of India
- UGC minor projects,
- ragging free campus
- Student Life Center for extracurricular activities
- Large number of Research publication by the faculty members
- Good Faculty retention
- Good Academic ambience

WEAKNESS
- Lack of industry experienced faculty members
- Lack of Sr. Experienced Faculty members in some departments

OPPORTUNITIES
- NBA accreditation for all programs
- Higher Grade in NAAC accreditation
- International accreditation
- Enhance interaction with industry
- Collaborative research project with industry
- Academic excellence
- Strengthen the Alumni Association

CHALLANGES
- Cope up with rapid technological change
- Admission of quality students

Future Plan
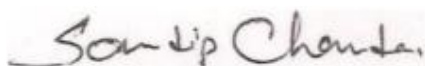- More number of experienced faculty members with Ph.D in Engineering Section and also industry experienced faculty members.
- Up gradation of knowledge and qualification of in house faculty members.
- Monitoring and evaluation of all administrative and academic activities through ERP
- Renewal of NBA accreditation for all eligible programs
- Higher Grade in NAAC
- Excellence in Academic Status

8. Plans of institution for next year

> ➢ Introduce innovative and unique practices by each department for the welfare and academic excellence of the students.
> ➢ To enrich the online courseware for all the subjects incorporating animation under autonomy curriculum for the students.
> ➢ Increase the number of research publications in high quality journals specially by core departments.
> ➢ To get more projects from different funding agency.
> ➢ The number of students with certification through NPTEL local chapter is to be increased.
> ➢ To raise the ranking of the institution in national level through NAAC and NIRF.
> ➢ Renewal accreditation of all the UG and PG programmes by NBA.
> ➢ The functioning of the Grievance Redressal Committee, Disciplinary Committee, Anti Ragging Committee and other committees will be made more rigorous to maintain proper campus discipline and healthy academic atmosphere.
> ➢ Continue publish magazines centrally as well as by all departments .
> ➢ All the academic activities will be linked through ERP system to avail all the information readily.
> ➢ As a part "Clean campus project" we plan to plant more trees and increase the greenery of the surrounding. This will be done in coordination with local municipality.

Name : Dr.Sandip Chanda   *Name: Dr.Rupa Bhattacharyya*

Signature of the Coordinator, IQAC   *Signature of the Coordinator, IQAC*

Name:Prof.(Dr.)M.R.Kanjilal

Signature of the Chairperson, IQAC

_***_

Annexure IA

Abbreviations:

CAS	-	Career Advanced Scheme
CAT	-	Common Admission Test
CBCS	-	Choice Based Credit System
CE	-	Centre for Excellence
COP	-	Career Oriented Programme
CPE	-	College with Potential for Excellence
DPE	-	Department with Potential for Excellence
GATE	-	Graduate Aptitude Test
NET	-	National Eligibility Test
PEI	-	Physical Education Institution
SAP	-	Special Assistance Programme
SF	-	Self Financing
SLET	-	State Level Eligibility Test
TEI	-	Teacher Education Institution
UPE	-	University with Potential Excellence
UPSC	-	Union Public Service Commission

****

Best Practice I

1. Title of the Practice
**Outcome based syllabus**

2. Goal

• To aid in the overall growth of the students to make them ready for industry and to be acceptable by the society.

3. The Context

The technology is in a continuous change depending on which the need of the society is also changing. Therefore based on the need of the industry and society the syllabus is revised continuously taking the feedback of the different stakeholders.

4. The Practice

The feedback of the stakeholders are analysed in the BOS in presence of experts from industry academics and alumni members. On the basis of this the best framed syllabus is placed before the academic council for final approval.
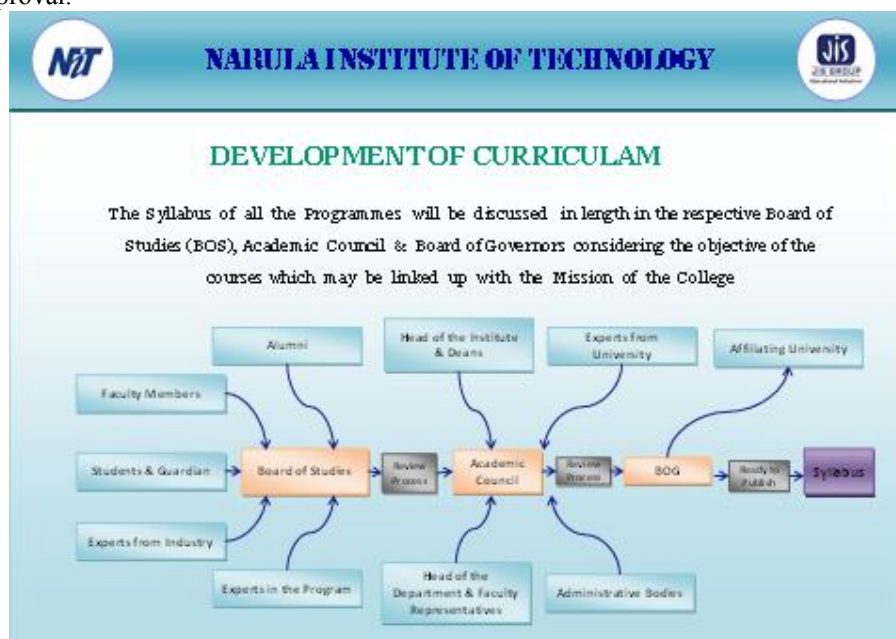
5. Evidence of Success

Although the 1st batch under autonomy revised syllabus will pass out in 2020, in the present syllabus under MAKAUT, some part has been incorporated as beyond syllabus and success has been observed through the performance of the students.

Best Practice II

1. Title of the Practice
Interactive teaching learning methodology

2. Goal

• To make the classroom more student friendly and increase the attendance of the students.

3. The Context

To increase the interest of the students towards the subject and for better understanding of it.

4. The Practice

Lesson plan and online courseware of each subject is uploaded in the institutional and the departmental website prior to the commencement of classes. Thus the students come to the class knowing the topic that will be discussed. Moreover in this respect 100% faculty members had undergone pedagogy training.

NARULA INSTITUTE OF TECHNOLOGY

Teaching Learning Process
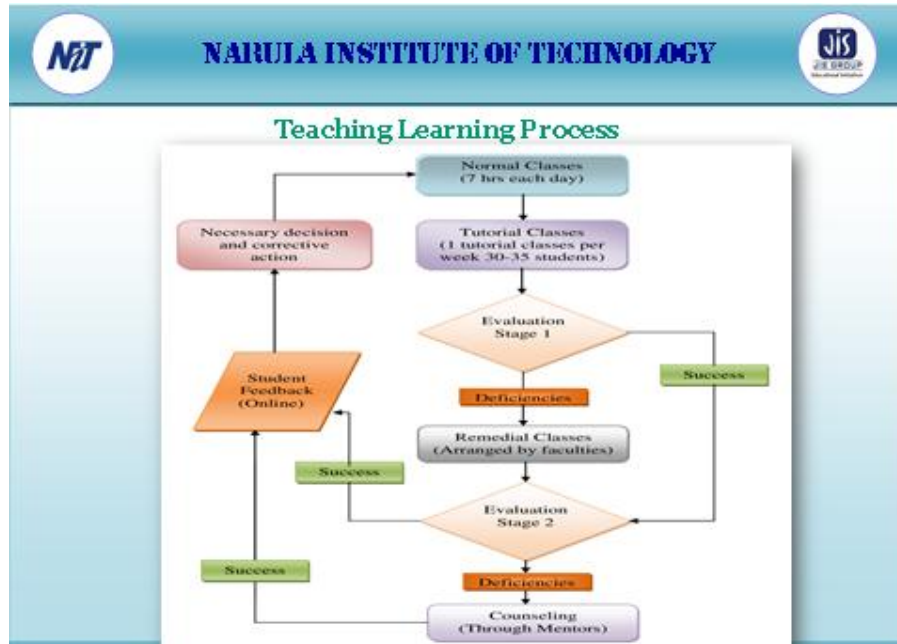
5. Evidence of Success

Attendance and interest of the students have increased.

Best Practice III

1. Title of the Practice

Certification through online course.(NPTEL local chapter)

2. Goal

• To increase the understanding of the students by providing them more academic exposure and nurturing the habit of self learning.

3. The Context

To fit in the competitive market this online course provides a broad spectrum of learning different subjects beyond syllabus to the students. It also provides a platform of national level competition and a wide field of academic exposure.

4. The Practice

Local chapter of the NPTEL course has been established and about 300 students have gone through different certification courses. About 200 students appeared for examination and have emerged successfully.

5. Evidence of Success

The institute has been ranked 53 all over India with the rating of A.

Best Practice IV

1. Title of the Practice

Industrial Training of the students

2. Goal

• To increase the level of skill of young engineers with direct interaction with industry.

• To increase employability of the students.

3. The Context

The exposure of young engineers to the industry and present day industry requirement is of utmost importance. An incubation cell for these pass out engineers with direct intervention with industry can be a good platform for them to improve their employability.

4. The Practice

In house and external training programmes are arranged for the students periodically. Under souramitra scheme of central government , ADS foundation (having MOU with Narula Institute of Technology) started a 3months training programme in the month of September for the pass out students. The training was mainly on different techniques of harnessing the solar energy. In this training the students directly interacted with the industrial personnel and partially understood the requirements of the industry. A similar 7 days training programme was organised in due collaborations with Relaince Group, to train the students with modern communication technology.

5. Evidence of Success

A good response was observed from the students. Around 50 students participated in these training programmes. Many of them got placed in different MNCs.

Best Practice V

1. Title of the Practice

Incubation of Innovation.

2. Goal

• To encourage and assist in setting up enterprises by individual including first generation entrepreneurs through appropriate training

• To create awareness among various target groups on entrepreneurial opportunities in West Bengal and India.

3. The Context

To spread entrepreneurial education at the college among the students so that they may acquire skills for self-employment.

4. The Practice

A one day entrepreneurship awareness camp on MSME and Bengal Start up boot camp 2016-2017 & 2017-2018 was organised by District Industries Centre , North 24 Parganas (Directorate of Small and medium industries) Govt. Of West Bengal was held on 7th September ,2016. Interested students of all streams were allowed to participate in this event.

5. Evidence of Success

A good response was observed from the students. Around 90 students participated in this event. Many of them were benefitted by the expert guidance of the resource persons.

Best Practice VI

1. Title of the Practice

CII-NIT Innovation Club

2. Goal

• To encourage young students and faculty members to apply their skills for innovation on demand in collaboration with Confederation of Indian Industries.
• To make them aware about the need of driving innovation and global competiveness.
• To inculcate the idea of Smart innovation in their projects.

3. Context

With rapid technological advancements , students , would be engineers, must understand the industrial need. Their young and fresh minds may produce innovative solutions to the global technological problems. In pursuit of this idea , Narula Institute of Technology has launched this CII-NIT innovation Club in collaboration with Confederation of Indian Industry.

4. Practice

A seminar on financing innovation for supporting smart ideas was organised by Confederation of Indian Industries on 5th November, 2015.This was followed by the launch of innovation club with the underlying idea of "leveraging Innovation for business" on 27th February,2016 at the Park , Kolkata. During the Annual Technological Festival of Narula Institute of Technology, the CII-NIT Innovation

club was launched in April,2016.In the same event , students displayed innovative projects in front of eminent personalities and experts form CII.

6. Evidence of Success

A few of the students project have been selected by CII for pursuing further research.

Annexure II

ACADEMIC CALENDAR – ODD SEMESTER 2016 [July to December]

Month	Date	Day	Particulars
July	1	Friday	Semester Break
July	2	Saturday	Weekly off
July	3	Sunday	Weekly off
July	4	Monday	Semester Break
July	5	Tuesday	Semester Break
July	6	Wednesday	Holiday (Id-Ul-Fitre)
July	7	Thursday	Semester Break
July	8	Friday	Semester Break
July	9	Saturday	Weekly off
July	10	Sunday	Weekly off
July	11	Monday	1 Teaching Day [Odd Sem Commencement 2016]
July	12	Tuesday	2 Teaching Day
July	13	Wednesday	3 Teaching Day
July	14	Thursday	4 Teaching Day
July	15	Friday	5 Teaching Day
July	16	Saturday	Weekly off
July	17	Sunday	Weekly off
July	18	Monday	6 Teaching Day [Registration ongoing batch]
July	19	Tuesday	7 Teaching Day[Registration ongoing batch]
July	20	Wednesday	8 Teaching Day[Registration ongoing batch]
July	21	Thursday	9 Teaching Day[Registration ongoing batch]
July	22	Friday	10 Teaching Day[Registration ongoing batch]

July	23	Saturday	Weekly off
July	24	Sunday	Weekly off
July	25	Monday	11 Teaching Day [Distribution project - Final year]
July	26	Tuesday	12 Teaching Day[Distribution project - Final year]
July	27	Wednesday	13 Teaching Day[Distribution project - Final year]
July	28	Thursday	14 Teaching Day[Distribution project - Final year]
July	29	Friday	15 Teaching Day
July	30	Saturday	Weekly off
July	31	Sunday	Weekly off
August	1	Monday	16 Teaching Day Commencement of new UG batch]
August	2	Tuesday	17 Teaching Day [Declaration of Attendance % of July]
August	3	Wednesday	18 Teaching Day [Orientation Progm of New Batch]
August	4	Thursday	19 Teaching Day [Orientation Progm of New Batch]
August	5	Friday	20 Teaching Day [Orientation Progm of New Batch]
August	6	Saturday	Weekly off
August	7	Sunday	Weekly off
August	8	Monday	21 Teaching Day [Diagnostic test- New Batch]
August	9	Tuesday	22 Teaching Day [Diagnostic test - New Batch]
August	10	Wednesday	23 Teaching Day
August	11	Thursday	24 Teaching Day
August	12	Friday	25 Teaching Day
August	13	Saturday	Weekly off
August	14	Sunday	Weekly off
August	15	Monday	Holiday (Independence Day Celebration)
August	16	Tuesday	26 Teaching Day
August	17	Wednesday	27 Teaching Day

August	18	Thursday	28 Teaching Day
August	19	Friday	29 Teaching Day
August	20	Saturday	Weekly off
August	21	Sunday	Weekly off
August	22	Monday	30 Teaching Day
August	23	Tuesday	31 Teaching Day
August	24	Wednesday	32 Teaching Day
August	25	Thursday	Holiday (Janmastami)
August	26	Friday	33 Teaching Day
August	27	Saturday	Weekly off
August	28	Sunday	Weekly off
August	29	Monday	34 Teaching Day
August	30	Tuesday	35 Teaching Day
August	31	Wednesday	36 Teaching Day
September	1	Thursday	37 Teaching Day [Distribution 1st Assignment]
September	2	Friday	38 Teaching Day [Declaration of Attendance %-Aug]
September	3	Saturday	Fresher's Welcome
September	4	Sunday	Weekly off
September	5	Monday	39 Teaching Day [Teachers' day]
September	6	Tuesday	40 Teaching Day
September	7	Wednesday	41 Teaching Day
September	8	Thursday	42 Teaching Day [Submission 1st Assignment]
September	9	Friday	43 Teaching Day [Submission 1st Assignment]
September	10	Saturday	44 Teaching Day
September	11	Sunday	Weekly off
September	12	Monday	Holiday (Id-Ud-Zoha)

September	13	Tuesday	45 Teaching Day
September	14	Wednesday	46 Teaching Day [Submission of Question Paper]
September	15	Thursday	47 Teaching Day [1st review of Project –Final Yr]
September	16	Friday	48 Teaching Day [Submission of Q paper-U Test 1]
September	17	Saturday	Holiday (Viswakarma Puja)
September	18	Sunday	Weekly off
September	19	Monday	49 Teaching Day
September	20	Tuesday	50 Teaching Day
September	21	Wednesday	51 Teaching Day [1st Unit Test]
September	22	Thursday	52 Teaching Day [1st Unit Test]
September	23	Friday	53 Teaching Day [1st Unit Test]
September	24	Saturday	54 Teaching Day
September	25	Sunday	Weekly off
September	26	Monday	55 Teaching Day
September	27	Tuesday	56 Teaching Day
September	28	Wednesday	57 Teaching Day
September	29	Thursday	58 Teaching Day
September	30	Friday	Holiday (Mahalaya)
October	1	Saturday	Weekly off
October	2	Sunday	Holiday (Gandhi Birthday)
October	3	Monday	59 Teaching Day [Declaration of Attendance %-Sept]
October	4	Tuesday	60 Teaching Day [Distribution of Answer script- UT1]
October	5	Wednesday	61 Teaching Day
October	6	Thursday	62 Teaching Day [1st Unit Test Result]
October	7	Friday	Holiday (Durga Puja)
October	8	Saturday	Holiday (Durga Puja)

October	9	Sunday	Holiday (Durga Puja)
October	10	Monday	Holiday (Durga Puja)
October	11	Tuesday	Holiday (Durga Puja)
October	12	Wednesday	Holiday (Durga Puja)
October	13	Thursday	Holiday (Durga Puja)
October	14	Friday	Holiday (Durga Puja)
October	15	Saturday	Holiday (Durga Puja)
October	16	Sunday	Weekly off
October	17	Monday	63 Teaching Day
October	18	Tuesday	64 Teaching Day [Distribution of 2nd Assignment]
October	19	Wednesday	65 Teaching Day
October	20	Thursday	66 Teaching Day
October	21	Friday	67 Teaching Day
October	22	Saturday	Parent-Teacher Meeting
October	23	Sunday	Weekly off
October	24	Monday	68 Teaching Day
October	25	Tuesday	69 Teaching Day
October	26	Wednesday	70 Teaching Day
October	27	Thursday	71 Teaching Day
October	28	Friday	72 Teaching Day [Submission of 2nd Assignment]
October	29	Saturday	Holiday (Kali Puja)
October	30	Sunday	Holiday (Diwali)
October	31	Monday	73 Teaching Day
November	1	Tuesday	Holiday (Bhatridwitiya)
November	2	Wednesday	74 Teaching Day [Declaration of Attendance %-Oct]
November	3	Thursday	75 Teaching Day [Choice of Electives]

November	4	Friday	76 Teaching Day
November	5	Saturday	Weekly off
November	6	Sunday	Weekly off
November	7	Monday	77 Teaching Day
November	8	Tuesday	78 Teaching Day [2nd review of project-Final yr]
November	9	Wednesday	79 Teaching Day
November	10	Thursday	80 Teaching Day
November	11	Friday	81 Teaching Day
November	12	Saturday	Weekly off
November	13	Sunday	Weekly off
November	14	Monday	Holiday (Birthday of Guru Nanak)
November	15	Tuesday	82 Teaching Day [2nd Unit Test]&Student feedback
November	16	Wednesday	83 Teaching Day[2nd Unit Test] &Student feedback
November	17	Thursday	84 Teaching Day [2nd Unit Test] &Student feedback
November	18	Friday	85 Teaching Day
November	19	Saturday	Weekly off
November	20	Sunday	Weekly off
November	21	Monday	86 Teaching Day
November	22	Tuesday	87 Teaching Day
November	23	Wednesday	88 Teaching Day [Distribution Answer script 2 UT]
November	24	Thursday	89 Teaching Day
November	25	Friday	90 Teaching Day [Publication result 2 unit test]
November	26	Saturday	Weekly off
November	27	Sunday	Weekly off
November	28	Monday	91 [Practical Exam & Viva-Voce] *
November	29	Tuesday	92 [Practical Exam & Viva-Voce]

November	30	Wednesday	93 [Practical Exam & Viva-Voce]
December	1	Thursday	94 [Practical Exam & Viva-Voce]
December	2	Friday	95 [Practical Exam & Viva-Voce]
December	3	Saturday	Weekly off
December	4	Sunday	Weekly off
December	5	Monday	96 Teaching Day (Clearing doubts)
December	6	Tuesday	97 [Theory Exam]*
December	7	Wednesday	98 [Theory Exam]
December	8	Thursday	99 [Theory Exam]
December	9	Friday	100 [Theory Exam]
December	10	Saturday	Weekly off
December	11	Sunday	Weekly off
December	12	Monday	101 [Theory Exam]
December	13	Tuesday	102 [Theory Exam]
December	14	Wednesday	103 [Theory Exam]
December	15	Thursday	104 [Theory Exam]
December	16	Friday	105 [Theory Exam]
December	17	Saturday	Weekly off
December	18	Sunday	Weekly off
December	19	Monday	106 [Theory Exam]
December	20	Tuesday	107 [Theory Exam]
December	21	Wednesday	108 [Theory Exam]
December	22	Thursday	109 [Theory Exam]
December	23	Friday	110 [Theory Exam]
December	24	Saturday	Weekly off
December	25	Sunday	Holiday (Christmas Day)

Month	Date	Day	Particulars
December	26	Monday	Inter Semester Break
December	27	Tuesday	Inter Semester Break
December	28	Wednesday	Inter Semester Break
December	29	Thursday	Inter Semester Break
December	30	Friday	Inter Semester Break
December	31	Saturday	Inter Semester Break [Last date of Submission Semester fees for next semester]

Holiday – 21 days

*Semester Practical and Theory Examination dates may change.

ACADEMIC CALENDAR – EVEN SEMESTER 2017 [January to June]

Month	Date	Day	Particulars
January	1	Sunday	**Weekly off**
January	2	Monday	Winter Recess
January	3	Tuesday	Winter Recess
January	4	Wednesday	1 Teaching Day [Even Sem Commencement 2017]
January	5	Thursday	2 Teaching Day
January	6	Friday	3 Teaching Day
January	7	Saturday	**Weekly off**
January	8	Sunday	**Weekly off**
January	9	Monday	4 Teaching Day
January	10	Tuesday	5 Teaching Day
January	11	Wednesday	6 Teaching Day
January	12	Thursday	7 Teaching Day

January	13	Friday	8 Teaching Day
January	14	Saturday	**Weekly off**
January	15	Sunday	**Weekly off**
January	16	Monday	9 Teaching Day [Registration ongoing batch]
January	17	Tuesday	10 Teaching Day [Registration ongoing batch]
January	18	Wednesday	11Teaching Day[Registration ongoing batch]
January	19	Thursday	12 Teaching Day [Registration ongoing batch]
January	20	Friday	Tech fest
January	21	Saturday	Tech fest
January	22	Sunday	**Weekly off**
January	23	Monday	Holiday [Netaji's Birthday]
January	24	Tuesday	13 Teaching Day [Distribution project - Final year]
January	25	Wednesday	14 Teaching Day [Distribution project - Final year]
January	26	Thursday	Holiday [Republic Day]
January	27	Friday	Cultural fest
January	28	Saturday	Cultural fest
January	29	Sunday	**Weekly off**
January	30	Monday	15 Teaching Day
January	31	Tuesday	16 Teaching Day
February	1	Wednesday	Holiday [Saraswati Puja]
February	2	Thursday	17 Teaching Day
February	3	Friday	Sports[Declaration of Attendance % of Jan]
February	4	Saturday	Sports
February	5	Sunday	**Weekly off**
February	6	Monday	18 Teaching Day
February	7	Tuesday	19 Teaching Day

February	8	Wednesday	20 Teaching Day
February	9	Thursday	21 Teaching Day [SJS Cricket Tournament for teachers]
February	10	Friday	22 Teaching Day [SJS Cricket Tournament for teachers]
February	11	Saturday	**Weekly off**
February	12	Sunday	**Weekly off**
February	13	Monday	23 Teaching Day
February	14	Tuesday	24 Teaching Day
February	15	Wednesday	25 Teaching Day
February	16	Thursday	26 Teaching Day
February	17	Friday	27 Teaching Day [SJS Cricket Tournament for students]
February	18	Saturday	**Weekly off** [SJS Cricket Tournament for students]
February	19	Sunday	**Weekly off**
February	20	Monday	28 Teaching Day
February	21	Tuesday	29 Teaching Day
February	22	Wednesday	30 Teaching Day
February	23	Thursday	31 Teaching Day
February	24	Friday	32 Teaching Day
February	25	Saturday	**Weekly off**
February	26	Sunday	**Weekly off**
February	27	Monday	33 Teaching Day
February	28	Tuesday	34 Teaching Day
March	1	Wednesday	35 Teaching Day
March	2	Thursday	Teaching Day [Indoor Sports for teachers and staff] [Declaration of Attendance %-Feb]
March	3	Friday	36 Teaching Day [Indoor Sports for teachers and staff]
March	4	Saturday	**Weekly off**
March	5	Sunday	**Weekly off**

March	6	Monday	37 Teaching Day [Distribution 1st Assignment]
March	7	Tuesday	38 Teaching Day[Distribution 1st Assignment]
March	8	Wednesday	39 Teaching Day [Mini marathon]
March	9	Thursday	40 Teaching Day
March	10	Friday	41 Teaching Day
March	11	Saturday	**Weekly off**
March	12	Sunday	**Weekly off**[Dol Purnima]
March	13	Monday	Holiday [Holi]
March	14	Tuesday	42 Teaching Day [Submission 1st Assignment]
March	15	Wednesday	43 Teaching Day [Submission 1st Assignment]
March	16	Thursday	44 Teaching Day
March	17	Friday	45 Teaching Day
March	18	Saturday	**Weekly off**
March	19	Sunday	**Weekly off**
March	20	Monday	46 Teaching Day [1st review of Project –Final Yr]
March	21	Tuesday	47 Teaching Day [Submission of Q paper-U Test 1]
March	22	Wednesday	48 Teaching Day [Submission of Q paper-U Test 1]
March	23	Thursday	49 Teaching Day
March	24	Friday	50 Teaching Day
March	25	Saturday	**Weekly off**
March	26	Sunday	**Weekly off**
March	27	Monday	51 Teaching Day[1st Unit Test]
March	28	Tuesday	52 Teaching Day [1st Unit Test]
March	29	Wednesday	53 Teaching Day[1st Unit Test]
March	30	Thursday	54 Teaching Day
March	31	Friday	55 Teaching Day

April	1	Saturday	**Weekly off**
April	2	Sunday	**Weekly off**
April	3	Monday	56 Teaching Day
April	4	Tuesday	57 Teaching Day[Declaration of Attendance %-Mar]
April	5	Wednesday	58 Teaching Day[Distribution of Answer script- UT1]
April	6	Thursday	59 Teaching Day
April	7	Friday	60 Teaching Day[1st Unit Test Result]
April	8	Saturday	**Weekly off**
April	9	Sunday	**Weekly off**
April	10	Monday	61 Teaching Day
April	11	Tuesday	62 Teaching Day
April	12	Wednesday	63 Teaching Day
April	13	Thursday	64 Teaching Day
April	14	Friday	Holiday [Bengali New Year]
April	15	Saturday	**Weekly off**
April	16	Sunday	**Weekly off**
April	17	Monday	65 Teaching Day
April	18	Tuesday	66 Teaching Day
April	19	Wednesday	67 Teaching Day
April	20	Thursday	68 Teaching Day [Distribution of 2nd Assignment]
April	21	Friday	69 Teaching Day
April	22	Saturday	**Weekly off**[Parent-Teacher Meeting]
April	23	Sunday	**Weekly off**
April	24	Monday	70 Teaching Day
April	25	Tuesday	71 Teaching Day
April	26	Wednesday	72 Teaching Day

April	27	Thursday	73 Teaching Day
April	28	Friday	74 Teaching Day[Submission of 2nd Assignment]
April	29	Saturday	**Weekly off**
April	30	Sunday	**Weekly off**
May	1	Monday	Holiday [May Day]
May	2	Tuesday	75 Teaching Day
May	3	Wednesday	76 Teaching Day[Declaration of Attendance %-Apr]
May	4	Thursday	77 Teaching Day
May	5	Friday	78 Teaching Day [Choice of Electives]
May	6	Saturday	**Weekly off**
May	7	Sunday	**Weekly off**
May	8	Monday	79 Teaching Day [Rabindra Jayanti Celebration]
May	9	Tuesday	80 Teaching Day
May	10	Wednesday	81 Teaching Day
May	11	Thursday	82 Teaching Day [2nd review of project-Final yr]
May	12	Friday	83 Teaching Day
May	13	Saturday	**Weekly off**
May	14	Sunday	**Weekly off**
May	15	Monday	84 Teaching Day
May	16	Tuesday	85 Teaching Day
May	17	Wednesday	86 Teaching Day [2nd Unit Test] &Student feedback
May	18	Thursday	87 Teaching Day [2nd Unit Test]&Student feedback
May	19	Friday	88 Teaching Day[2nd Unit Test]&Student feedback
May	20	Saturday	**Weekly off**
May	21	Sunday	**Weekly off**
May	22	Monday	89 Teaching Day

May	23	Tuesday	90 Teaching Day
May	24	Wednesday	91 Teaching Day [Distribution Answer script 2 UT]
May	25	Thursday	92 Teaching Day
May	26	Friday	93 Teaching Day [Publication result 2 unit test]
May	27	Saturday	**Weekly off**
May	28	Sunday	**Weekly off**
May	29	Monday	94 Teaching Day
May	30	Tuesday	95 Teaching Day
May	31	Wednesday	96 Teaching Day [Farewell to final year students]
June	1	Thursday	97 [Practical Exam & Viva-Voce]
June	2	Friday	98 [Practical Exam & Viva-Voce]
June	3	Saturday	**Weekly off**
June	4	Sunday	**Weekly off**
June	5	Monday	99 [Practical Exam & Viva-Voce]
June	6	Tuesday	100 [Practical Exam & Viva-Voce]
June	7	Wednesday	101 [Practical Exam & Viva-Voce]
June	8	Thursday	102 Teaching Day [Doubts clearing]
June	9	Friday	103 Teaching Day [Doubts clearing]
June	10	Saturday	**Weekly off**
June	11	Sunday	**Weekly off**
June	12	Monday	104 [Theory Exam]
June	13	Tuesday	105 [Theory Exam]
June	14	Wednesday	106 [Theory Exam]
June	15	Thursday	107 [Theory Exam]
June	16	Friday	108 [Theory Exam]
June	17	Saturday	**Weekly off**

June	18	Sunday	**Weekly off**
June	19	Monday	109 [Theory Exam]
June	20	Tuesday	110 [Theory Exam]
June	21	Wednesday	111 [Theory Exam]
June	22	Thursday	112 [Theory Exam]
June	23	Friday	113 [Theory Exam]
June	24	Saturday	**Weekly off**
June	25	Sunday	**Weekly off**
June	26	Monday	Inter Semester Break Holiday [Eid-al-Fitr]
June	27	Tuesday	Inter Semester Break
June	28	Wednesday	Inter Semester Break
June	29	Thursday	Inter Semester Break
June	30	Friday	Inter Semester Break [Last date of Submission Semester fees for next semester]

Student's Feedback Form and its Analysis

Narula Institute Of Technology

81, Nilgunj Road, Agarpara,Pin-700109

APPRAISAL OF FACULTY MEMBERS BY STUDENTS
(TO BE FILLED FOR THE CURRENT SEMESTER)

FACULTY NAME			
SUBJECT CODE		NAME OF THE SUBJECT	
DEPARTMENT			
SEMESTER		SESSION	2016-17
Please select the appropriate option for rating			

1	Does the Teacher come well prepared for the class?	Always ○ Sometimes ○ Never ○
2	The teacher's English presentation and teaching skills are:	Good ○ Satisfactory ○ Unsatisfactory ○
3	Does the faculty provide assistance beyond routine hours, whenever required?	Usually ○ Sometimes ○ Rarely ○
4	Does the teacher give presentation by using LCD / Overhead Projector and/or use Blackboard?	Clear ○ Satisfactory ○ Shabby ○
5	Does the teacher allow you to ask questions and answers the questions you have asked?	Always ○ Avoid ○ Never ○
6	Does the teacher revise and ask questions which are relevant to the topic of discussion?	Always ○ Rarely ○ Never ○
7	Does the teacher give sufficient examples and solve previous examination problems in the class?	Always ○ Rarely ○ Never ○
8	Does the teacher assist you in the Laboratory and solve Laboratory related problems in the class?	Always ○ Rarely ○ Never ○
9	Does the teacher give assignments and check the assignments?	Always ○ Sometimes ○ Never ○
10	Does the teacher come to the class on time and take full class time ?	Always ○ Sometimes ○ Never ○

11	Does the teacher ignore the acts of indiscipline in the class and outside the class?	Never ○ Sometimes ○ Always ○
12	How does the teachers' assessment of your internal assessment (test) books?	Balanced ○ Strictly ○ Erratically ○
13	Does the teacher favour some group of students while evaluating internal test books and regarding other issues?	Yes ○ No ○
14	Does the teacher dictate notes in the class?	No ○ Yes (<25%) ○ Yes (Between 25-50%) ○ Yes (>50% time) ○
15	Any additional information you wish to add about your teacher	

Specimen Student's Feedback Analysis of One faculty member

MIS (NEW FORMAT) :FAS-I

NARULA INSTITUTE OF TECHNOLOGY

SUMMARY OF FACULTY APPRAISAL FROM STUDENTS FEEDBACK (EVALUATION SHEET)

(FACULTY-WISE)

NAME OF FACULTY	MS. PRATUSHA BISWAS DEB						DEPARTMENT	ELECTRICAL ENGINEERING					

SUBJECT	EE401 : ELECTRICAL MACHINES		NO. OF STUDENTS	61		SEMESTER	EVEN		ACADEMIC YEAR	2015-16			

SL.NO.	Q.NO.	A			B			C			D			Out of	Total	%
		Nos	Multiplied By	Sub Total	Nos	Multiplied By	Sub Total	Nos	Multiplied By	Sub Total	Nos	Multiplied By	Sub Total			
1	1	57	6	342	4	3	12	0	1	0	0	0	0	366	354	96.721
2	2	55	6	330	5	3	15	1	1	1	0	0	0	366	346	94.536
3	3	56	6	336	4	3	12	1	1	1	0	0	0	366	349	95.355
4	4	54	6	324	5	3	15	2	1	2	0	0	0	366	341	93.169
5	5	56	6	336	4	3	12	1	1	1	0	0	0	366	349	95.355
6	6	55	6	330	5	3	15	1	1	1	0	0	0	366	346	94.536
7	7	56	6	336	4	3	12	1	1	1	0	0	0	366	349	95.355
8	8	54	6	324	6	3	18	1	1	1	0	0	0	366	343	93.716
9	9	54	6	324	6	3	18	1	1	1	0	0	0	366	343	93.716
10	10	55	6	330	5	3	15	1	1	1	0	0	0	366	346	94.536
11	11	52	6	312	6	1	6	3	3	9	0	0	0	366	327	89.344
12	12	54	6	324	7	3	21	0	1	0	0	0	0	366	345	94.262
13	13	16	0	0	45	10	450	0	0	0	0	0	0	610	450	73.77
14	14	6	0	0	13	3	39	17	5	85	25	2	50	305	174	57.049
Total														5307	4762	89.7
Percentage obtained : (On scale of 10)																8.97

Generation of overall outcome of Student's feedback Analysis

SUMMARY OF FACULTY APPRAISAL FROM STUDENTS FEEDBACK

(Specimen Copy of one Department)

(EVALUATION SHEET)

(ON OVERALL BASIS)

ACADEMIC YEAR 2016-17					
Department - EE					
SL.NO.	Name Of Faculty	ODD Sem	EVEN Sem	Total Average	Dept.
1	MS. PRIYANJALI MUKHERJEE	8.46	0.00	8.46	EE
2	DR. SANDIP CHANDA	8.25	8.62	8.44	EE
3	MS KAMALIKA BANERJEE	8.41	8.35	8.38	EE
4	PROF. S. C. KONAR	8.28	8.31	8.30	EE
5	MS. SANCHARI KUNDU	8.21	8.15	8.18	EE
6	MS. PRATUSHA BISWAS DEB	8.14	8.20	8.17	EE
7	PROF. AMLAN CHAKRABARTI	8.10	8.11	8.11	EE
8	MR. SUDHANGSHU SARKAR	7.97	7.92	7.95	EE
9	MRS. DIPU MISTRY	7.90	7.84	7.87	EE
10	MS. SUBHRA MUKHERJEE	8.00	7.60	7.80	EE
11	PROF. MANOJIT BASAK	7.98	7.54	7.76	EE
12	MR. ARKENDU MITRA	7.61	7.54	7.58	EE
13	MR. PALLAV DUTTA	0.00	7.57	7.57	EE
14	MR. SUSHOVAN GOSWAMI	6.93	6.78	6.86	EE

NARULA INSTITUTE OF TECHNOLOGY

Specimen copy of Alumni Feedback

NARULA INSTITUTE OF TECHNOLOGY

Alumni Feedback Form

a) Name: PARAMES MUKHERJEE

b) Designation: Associate IT Engineer

c) Batch: 2012

d) Stream: C.S.E.

e) Name of the Organization: CMC LTD.

Address: 58, Canac Street, Kolkata

f) Contact Details:

Mobile No.: 9097014490

E-mail address: PARAMESMUKHERJEE@GMAIL.com

Note: 1) Rate on a 10 Point Scale
(10-Excellent, 8-9 – Very Good, 6-7 – Good, 5-Average, 3-4 – Poor, 0-2- very Poor)

2) Kindly write Suggestions, if any, based on your professional career. These suggestions will be helpful to us for strengthening our teaching practices for current UG / PG students.

	Description	Marks	Suggestions (if any)
1.	How appropriate was the curriculum for UG / PG Course to comply industry need	7	
2.	Do you think the technical knowledge imparted during UG/PG level are sufficient to solve Engineering problems in work.	9	
3.	How will you rate your ability to analyse or interpret the data to design a system, component or process as per the need of the industry?	7	
4.	Do you think you have learnt enough education during UG / PG study work in a team?	9	
5.	Do you think that the training for professional skill development during UG / PG level were sufficient?	5	
6.	Ability developed in UG / PG to use modern engineering tools.	8	
7.	Ability to understand professional and ethical responsibility imparted in UG / PG level?	7	
8.	Do you think the quality of laboratory / infrastructure used for imparting education at UG / PG level are State-of-the art in consonance with the industry expectations?	8	
9.	Do you think that the faculty / staff members associated with your department during your study, needs more knowledge / skills/ industry linkage for better quality of teaching?	8	
10.	How much pride do you feel to express yourself as an alumni of NIT	10	

Sl. No.	Description	Marks	Suggestions (if any)
11.	Values reflects on you from industry and as an alumnus of NIT in comparison to other colleges / Universities?	8	
12.	How would you rate the official website of the Institute in terms of professionalism and transparency?	6	

Would you like to be an entrepreneur in future? Yes / No

If yes, then, would you like to join our EDC cell? Yes

Good   677   ~~88.9%~~
Satisfactory   93   ~~12.8%~~
Un-satisfactory   2   ~~0.3%~~

Does teachers of ECE department provide assistance beyond routine hours, whenever required?

Yes   634   94.3%
Sometime   37   5.5%
No   1   0.1%

Whether teachers of ECE department provide interactive teaching ?

Always   617   91.8%
Sometime   51   7.6%
Rarely   2   0.3%
Never   2   0.3%

Does teachers of ECE assist you in the Laboratory and solve Laboratory
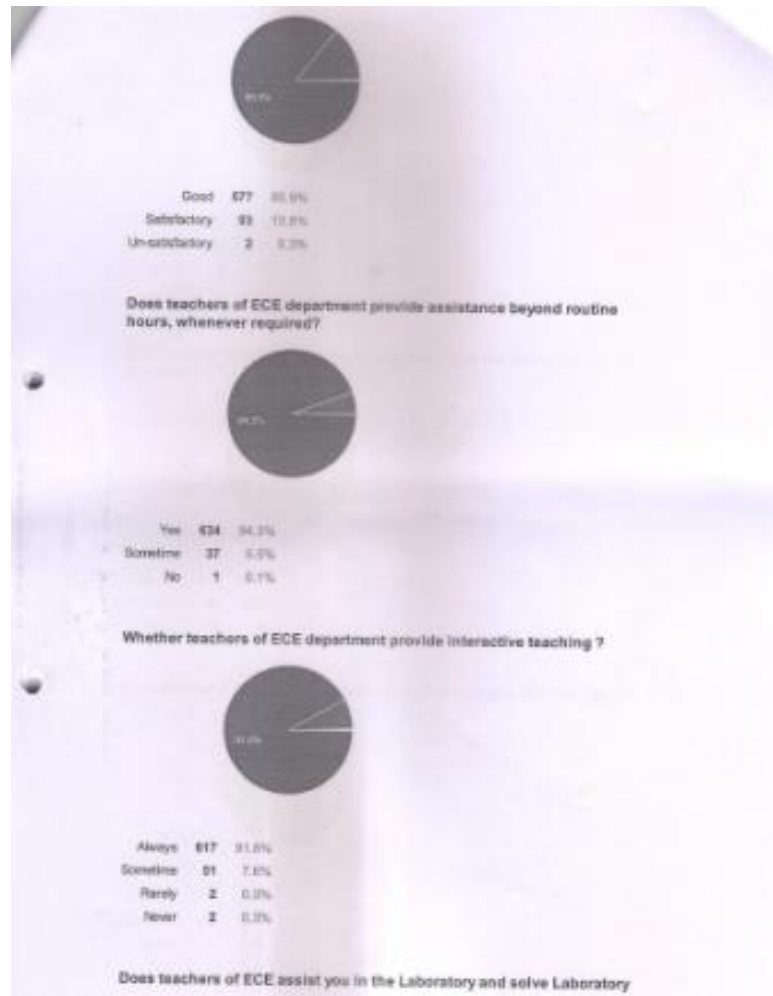
related problems ?

Always	620	92.3%
Sometime	49	7.3%
Rarely	2	0.3%
Never	1	0.1%

Does teacher of ECE give assignments and check the assignments regularly ?

Always	629	93.6%
Sometime	43	6.4%
Never	0	0%

Does teacher of ECE come to the class on time and take full class time ?

Always	646	96.1%
Sometime	25	3.7%
Never	1	0.1%

Specimen Copies of Employer's Feedback Analysis

activities :

Ability to   GOOD
take up
extra
responsibility
:

Ability and   GOOD
motivation
for social
activity :

Obligation   SATISFACTORY
to work
beyond
schedule if
required :

Overall   SATISFACTORY
impression
about their
performance
:

Any Other
Feedback :

Any additional information you wish to add about your ECE department teacher / teachers

The teachers are very helpful and very much encouraging. Only one thing should be done that some of the electronic instruments in the lab which are *fully should be replaced*, otherwise our department meets all our needs.

The Intellect, theory, & practicals-AWESOME.

one think that I would like to add about the teachers of ECE is that they are friendly in nature... and always ready to help us in any circumstances...they not only give us educational knowledge... but they also give us information / advices which will useful in our future...

Teachers are awesome.

our teachers are really helpful and encourage us to enhance our skills. they r not jst teachers but mentors too.

THEY ALL ARE EXCELLENT.

The teachers of our department are very helpful and supportive.

ALL THE FACULTIES ARE VERY COOPERATIVE AND PROVIDE USEFUL GUIDENCE IN VERY FIELD IN STUDIES.

The infrastructure is good enough for ideal teaching learning processes.

The subjects taught from Semester 1 of B.Tech course was close to the best of satisfaction on the part of college teaching faculty as well as us. The knowledge imparted was excellent...and the lab sessions by expert faculty were really helpful. Facility was stupendous and the we enjoyed and appreciated every bit of it.

There are some really good teachers in ece , but their numbers is overshadowed by a sizable number of underqualified teachers , especially in terms of communication skills and practical knowledge , their numbers are needed to be reduced and more practical oriented learning methodologies needed to be implemented.

Our teachers guide us through the right path. With lots of care, understanding and with fun they make our classes lively and make learning of the problems with simple steps so that it becomes easier to us.

The best part about E.C.E is that our faculties give us their 100% assistance at all times, be it for technical matters and career oriented information . They guide us at all aspects at all times . Our HOD madam always stops us to solve any problems faced by the students and regularly interact with us about our progress in all sections of professional life. In all our faculties are:- 1. Supportive. 2. Helpful. 3. Technically sound. 4. Motivating at all times. We are very happy to undergo our education under such professional guidance.

Sir it will be helpful *if we can get both exam and GATE preparatory class.*

The teachers are very satifactory.

Teachers of our department are very helpful. They always guide us in proper way and help us in every aspect to grow as a professional. I personally hope, I'll be getting the same.