

GURUNANAK INSTITUTE OF TECHNOLOGY

Approved by A.I.C.T.E., New Delhi
Affiliated to MAKAUT, West Bengal



Supporting Document Criterion 6.5.1 (Additional Information)

Guru Nanak Institute of Technology
157/F, Nilgunj Road, Panihati
Kolkata -700114

Ref. Number GNIT/PRIN/IQAC/2021/145	Compiled & Checked by: Registrar Sig..... <i>[Signature]</i> Date 10/11/21	Approved by: Principal Sig: <i>[Signature]</i> Date 10/12/21
---	--	---

REGISTRAR *(Acadmic)*
GURUNANAK INSTITUTE OF TECHNOLOGY
KOLKATA - 700114

Principal
Guru Nanak Institute of Technology

Summary of IQAC

Guru Nanak Institute of Technology is instituted with a vision to empower the aspiring professionals with the technological knowledge and professional expertise under the aegis of JIS Group Educational Initiatives in the year 2003. This technical campus offers undergraduate and postgraduate courses under MAKAUT (Formerly known as WBUT) and some courses are NBA Accredited. The Institute is approved by AICTE and accredited by UGC, NAAC and located in one of the prime locations in North Kolkata near Sodepur. The Institute offers latest technology oriented courses as per industry trends and nurtures creativity, innovations and research initiatives both at faculty and student levels to enrich and enhance the teaching learning process.

VISION

To ignite young minds with creativity and empowering lives and educate them to produce a galaxy of young professionals of outstanding ability who can become leaders in their profession and responsible citizens who can meet the challenges faced by the society

MISSION

- To meet the demands for skilled manpower on a global basis in the field of engineering, technology and management
- To inculcate amongst the students and inspire them to take up higher studies and research
- To impart high quality education by providing the ambience needed for developing requisite skill for excellence in education and industry

GOALS

- Deliver academic excellence.
- Provide innovative high quality academic support and professional services.
- Manage a high performing organization.
- Improving and analyzing student feedback

OBJECTIVES

To nurture research and knowledge initiative, to empower students with education and employment opportunities, to establish worldwide network with industry and to entrust our enterprise as well as change our students with social responsibilities.

Strength, Weakness, Opportunity and Challenges (SWOC)

STRENGTH

1. Choice based credit system with interdisciplinary subjects and credit transfer policy. 32 value added and skill development courses are offered for every discipline. Seminar room, auditorium, many classrooms are ICT and Wi-Fi enabled.
2. 30% doctorate faculty members, 10% are industry experienced, 50% women faculty.

3. 31 National and International prestigious award.
4. 500 publications in Scopus/WOS journals.
5. 35 research project from DST, UGC, AICTE.
6. Active Institution Innovation Council under the aegis of MHRD.
7. Active national cyber security cell.
8. Strong industry/academia collaboration with measurable outcome.
9. X SQ FT library space with the implementation of e-ShodhSindhu.
10. Implementation of NDL.
11. Formulating centre of excellence funded by DST-FIST Level 0
12. Study circle for GATE, Civil Service, TOEFL, GRE where many students cleared the exams.
13. Over 50% faculty members in decision making body.
14. High level of decentralization implemented.
15. MoU with different reputed university (JU) and institutes (CDAC).
16. Industry mentor, adjunct professor from industry appointed in last 5 years.
17. Strong alumni association institutional as well as departmental.
18. Different scholarship scheme for UG, PG as well as diploma students.

WEAKNESS

1. Though women students are many in numbers still the women student ratio could be improved.
2. More solar power installations are needed to rely on non-conventional energy source.
3. Despite of several funded projects bagged by the institute, still it is trying for mega project (>1 crore) for higher ranking in NAAC.
4. Having achieved more than 80% student placement offer, institute still driving for Core Company/ non-it placement.

OPPORTUNITIES

1. Efforts to open new emerging courses either in B.Tech or B.Sc or M.Tech to catch-up the present days need.
2. With the engagements of 10 adjunct professors, institute still willing to involve different eminent scientist and technologist from multinational agencies for product development.
3. Institute is going to open pre-incubation cell and entrepreneurship development cell under the aegis of IIC GNIT. More industry collaborations are sought to make this a successful endeavor.
4. Centre of excellence for device fabrication is on the verge of launch. More funded projects are needed to make this centre a hub of excellence.
5. Many patents published by faculty members and students still need for more numbers of ipr and student project.
6. Opportunity to learn from international online MOOCS Platform (COURSERA).

CHALLENGE

1. With growing interdisciplinary approach in teaching learning-process, there is a greater challenge to periodically restructure our academic curriculum and industry partnership.
2. More research grants and industry partnerships are needed for student product development activities in order to groom potential entrepreneurs.
3. Identifying industry partners who are willing to invest on product development is a paramount task.
4. Venture capitalists and angel investors' participation will determine our on Translational research.

5. Government initiatives launched recently on smart city, start-ups, make in India, Digital India, skill development schemes have close parallel to the vision and mission of our institute which needs to be integrated.

CRITERIA WISE SUMMARY

Criterion I: - Curricular Aspects

The Curricular Aspects are the mainstay of any educational institution. After getting autonomy status, the institute ensures the main priority to the curricular design, development and framing/restructuring of appropriate syllabus for various programs and their proper implementation in line with its vision.

Criterion I pertains to the practices of an institution in initiating a wide range of programme options and courses that are in tune with the emerging national and global trends and relevant to the local needs. Apart from issues of diversity and academic flexibility, aspects on career orientation, multi-skill development, feedback system and involvement of stakeholders in curriculum updating are also gauged.

The focus of Criterion I is captured in the following Key Indicators:

KEY INDICATORS

- 1.1-Curriculum Design and Development
- 1.2 Academic Flexibility
- 1.3 Curriculum Enrichment
- 1.4 Feedback System

1.1 Curriculum Design and Development

One of the significant responsibilities of Autonomous Colleges is Curriculum Design and Development and thus is expected to have processes, systems and structures in place to shoulder this responsibility. Curriculum Design and Development is a complex process of developing appropriate need-based inputs in consultation with expert groups, based on the feedback from stakeholders. This results in the development of relevant programmes with flexibility to suit the professional and personal needs of the students and realization of core values. The Key Indicator (KI) also considers the good practices of the institution in initiating a range of programme options and courses that are relevant to the local needs and in tune with the emerging national and global trends. The Curriculum designed by College may also focus on employability, entrepreneurship and skill development.

For design and development of curriculum, the steps are followed as given below.

- Formation of Curriculum & Syllabus Committee
 - External Experts from Industry and Academics has Participated
 - Specialized core committee for individual department is formed
- Comparative Study on existing syllabus is done
- Stake holders' feedback is taken
- Curriculum Structure and syllabuses are proposed for each program
- It is presented and approved through Departmental BOS first, and then through the Academic Council after necessary modifications in each stage, if suggested any
- It is then presented to the Board of Governors for their recommendation
- It is finally submitted to MAKAUT, the affiliating university

1.2 Academic Flexibility

Academic flexibility refers to the freedom in the use of the time-frame of the courses, horizontal mobility, inter-disciplinary options and others facilitated by curricular transactions.

Supplementary enrichment programmes introduced as an initiative of the college, credit system and choice offered in the curriculum, in terms of programme, curricular transactions and time-frame options are also considered in this key indicator.

1.3 Curriculum Enrichment

Holistic development of students is the main purpose of curriculum. Curriculum is enriched by added courses and activities which may not be directly linked with one's discipline of study but contribute to sensitizing students to cross-cutting issues relevant to the current pressing concerns both nationally and internationally such as gender, environment and sustainability, human values and professional ethics, development of creative and divergent competencies. There are "value-added" courses for students to choose from according to their interests and inclinations.

1.4 Feedback System

The process of revision and redesign of curricula is based on recent developments and feedback from the stakeholders like employer, alumni, faculty members and students. The feedback from all stakeholders in terms of its relevance and appropriateness in catering to the needs of the society, economy and environment helps in improving the inputs.

After collecting feedback from all stakeholders, it is analysed, identified and pertinent points are chosen to enhance the learning effectiveness.

Criterion II: - Teaching Learning and Evaluation:

- **Teaching-learning process** is an important parameter for **outcome-based education (OBE)**. Teachers create enthusiasm, ignite passion and create curiosity in the students. On the other hand, in order to upgrade their own knowledge and to be acquainted with the new and cutting-edge technologies, the teachers regularly participate in **Conferences, Seminars and Symposia, Faculty Development Programs and Refresher Courses**. This also gives a boost to their **research and teaching capabilities**. A healthy **Student - Full Time Teacher Ratio of 15:1** exists.
- The students can take admission in various courses offered by Guru Nanak Institute of Technology, as per the rules and regulations of the **affiliating and regulatory authorities and the directives issued by the state Government**.
- After taking admission in a course, the **learning ability** of the student is assessed through various performances in the **induction program**, followed by diagnostic tests in Physics, Chemistry, Mathematics, and English. The learning ability of the students in successive years are assessed on the basis of the analysis of the score obtained in the qualifying examination before taking admission to an undergraduate program, communication and soft skills, behavioral traits, attendances in theory and practical classes, performance in Class test/ Online test/ Practical experiment etc., and participation in Extracurricular and co-curricular activities.
- **The Internal Quality Assurance Cell (IQAC)** conducts quality audits and conducts programs for improving the quality of teaching.
- Guru Nanak Institute of Technology has a very strong **Mentorship Program**. Mentorship Program covering all four undergraduate years and Post graduate students with Mentor card documenting interactions to identify **slow learners** and provide effective counseling in academics, social and peer relationships and career progression. Therefore, it is easy to identify the slow learners and provide them the required guidance accordingly like remedial classes. Mentors also inspire the **advance learners** by imparting them **beyond curriculum training** and special trainings. Guru Nanak Institute of Technology has spacious classrooms, smart boards, language lab, smart classrooms, and E-learning resources to provide the best learning opportunities to its students.
- Well Defined **Academic Calendar** displayed on the Institute website. The Institute prepares effective planning for execution of all the activities following the academic calendar published by the regulatory authority. This allows the teachers and the students to plan their teaching and learning process in a better way.

- The **Evaluation process**, which is another very important area in the domain of the undergraduate technical education, is a transparent and **continuous assessment system**, comprising of written examinations, class seminars, and assignments. **IT Integration of Examination system** has adopted by Guru Nanak Institute of Technology. Institute has adopted **IT-enabled services for an integrated end-to-end Examination Management System** with unique modules and the benefits in conducting examinations with utmost security and efficiency. The overall services have been distributed in three different areas: Network Operating Centre (NOC), Examination Data Centre (EDC) & Central Valuation Centre (CVC). The system is robust enough to handle large amount of data and is equipped with a proper backup /recovery framework.
- The robust teaching learning efforts are reflected in the Healthy Pass Percentage across last five years in final year university examinations. After the publication of the result, **attainment of course outcomes** is evaluated by the departments and subsequently submits their suggestions to the concerned committee for further action.

CRITERIA III :Research, Innovations, and Extension

- Guru Nanak Institute of Technology is always trying to excel in the research area with the initiatives of Research & Development (R&D) committee by defining various well-defined policies like promotion of research, Seed Money Grant, and Code of Ethics.
- The Institution provides financial support for the research by providing seed money and incentives for publications to faculty and students.
- The Institute also conducts workshops/seminars on Research Methodology, Intellectual Property Rights (IPR), entrepreneurship and skills development in association with external resource persons.
- The Institute has received research grants from Govt. & Non- Govt. funding agencies and also generated revenue through consultancy.
- The Institute has signed MoUs with National/International organizations for academic and research collaborations and established Innovation & Incubation center also.
- Faculty and Students of the college have published more than 1000 research papers in Peer Reviewed / SCOPUS / SCI Journals, books and conference proceedings and also more than 65 patents were published in last five years.
- Many faculty members have received grants from Govt. & Non- Govt. funding agencies for research projects and also received fellowship awards for advanced studies.
- Students are made aware of the moral and social obligations through the NSS unit (SFU) such as Distribution of Educational kit, hand sanitizer (made by GNIT Chemistry section), mask (made by BHM dept.), chocolates and sweets among the Sabar girl students from Belpahari, Jhargram, Preparation of Sanitizer for distribution among local people, during 2nd wave of Covid 19 pandemic in the locality, Student members of PRAGAATI distributed the essential commodities (Food, Medicines etc.) after the cyclone YAAS among the homeless people in addition to technical exhibitions.
- College has received awards and recognitions from the Government/ recognized bodies for extension activities. Many programs like plantation, Swatch Bharath, blood donation camps, Environmental Awareness workshops, etc. were conducted in the last five years.

Criterion IV – Infrastructure and Learning Resources.

- The Management has developed adequate infrastructure and learning resources in the campus to accomplish its objective of excellent education. The campus is beautified by gardening and landscaping.
- The campus has approximately 43 class rooms each with an average 70-80 seating capacity, well equipped laboratories, well stacked library, spacious playground and gymnasium.

- The college has one indoor auditorium with seating capacity of 600, State Bank of India (SBI) Bank, ATM counter, Canteen and power back up with two generators and UPS.
- Each department is given an exclusive staff room. Every department is equipped with a Computer having internet connectivity.
- The college is equipped with LCD and DLP projectors to facilitate the Modern teaching methods. Six class rooms have been made ICT ready.
- New facilities have been augmented during last year where several class rooms and laboratories have been added by incurring an expenditure of about Rs. 9,42,218/-.
- The total expenditure towards books and journals in the past five years has been Rs. 11,43,975/- with approximately about 53946 books being added. EXECUTIVE SUMMARY Guru Nanak Institute of Technology (GNIT) 6 ICT resources has been sufficiently strengthened in the institution with Computer to Student ratio being about 1 : 15.
- Expenditure incurred on maintenance and renovation works in the college stands at about Rs. 28,76,901/- The housekeeping work of the college has been outsourced.
- An in-house System Administrator and a technician are appointed for the purpose of Maintenance of the building, computers and equipment.
- An electrician is appointed to supervise the wellbeing of electrical fixtures and electrical connections in the college. The college library has reprographic service and other essential services. ICT learning resources are available in the college.

Criterion V: - Student Support and Progression

The highlights of this Criterion V are the efforts of an institution to provide necessary assistance to students, to enable them to acquire meaningful experiences for learning at the campus and to facilitate their holistic development and progression. It also looks into student performance and alumni profiles and the progression of students to higher education and gainful employment.

The focus of Criterion V is captured in the following Key Indicators:

KEY INDICATORS

- 5.1 Student Support
 - 5.2 Student Progression
 - 5.3 Student Participation and Activities
 - 5.4 Alumni Engagement
-

5.1 Student Support

Facilitating mechanisms like guidance cell, placement cell, grievance redressal cell and welfare measures are available at Guru Nanak Institute of Technology to support students. Specially designed inputs, like remedial classes, extra attention, beyond class hour assistance are provided to the needy students with learning difficulties. Provision is made for bridge and value-added courses by arranging webinar, seminar workshop field study, industry visits and many more activities in relevant areas. Institution has a well-structured, organized guidance and counseling system in place. Students benefited through scholarships, freships and other means should be identified by HEIs.

5.2 Student Progression

Guru Nanak Institute of Technology provides special attention for student progression to higher studies and/or to employment is a pertinent issue. Identify the reasons for poor attainment and plan and implement remedial measures, in the form of remedial classes, tutorial classes. Sustainable good practices like special classes for GATE, CAT etc, which effectively support the students facilitate optimal progression. The institutional provisions facilitate vertical movement of students from one level of education to the next higher level or towards gainful employment. Student qualifying for state/national/international level exam or competition is identified and encouraged by providing recognition..

5.3 Student Participation and Activities

Guru Nanak Institute of Technology promotes comprehensive practices for social justice and better stakeholder relationships. The institution promotes value-based education for inculcating corporate social responsibility and good citizenry amongst its student community by organizing several welfare and relief camp. The institution has the required infrastructure and promotes active participation of the students in social, cultural and leisure activities like old-age home visit, orphanage visit, blood donation camp and many more. Encouraging students' participation in activities facilitates developing various skills and competencies and foster holistic development.

5.4 Alumni Engagement

The Alumni of Guru Nanak Institute of Technology are a strong support to the institution. An active Alumni Association is there since 2013 – 2014. Alumni Association of GNIT intends to engage and stimulate GNIT alumni network. It's desire to work with alumni members towards understanding and fulfilling the interests of our alumni and ensuring intensive connectivity services and reinforcing network. That we will be able to facilitate academic and professional development, support and guidance to all the students for a more enriching and successful career and life.

Criterion VI: - Governance, Leadership and Management

- The governance of Guru Nanak Institute of Technology (GNIT) is based on its **Vision and Mission** of this Institute and the institute is running successfully over the years by following the **Strategic plan**. We also have a strong **E-Governance policy**, by which we are benefitted in pandemic time. Holistic development of students is the foundation of our Institute. For this purpose, starting from the governing body, Principal to the teaching and non-teaching staff adopted a dynamic approach. The governing body of GNIT always provides the opportunities to students and faculty members to **enhance their skills** with **financial support**.
- GNIT functions in a decentralized and democratic manner which has been reflected through the functions of **different committees and departments**. **Principal sir, different committees, Board of Governors, Departmental HODs, different stakeholders** are the part of decision making policy of this Institute. 90 percent faculty members are integral part of different committees of this Institute. According to the designation of faculty members, they have been given financial support ranging from 1500 INR to 20000 INR.
- GNIT has a strong **IT based e-governance** for smooth running of this Institute where software partner Hash technology plays a vital role. **Hash technology** is used for different purposes like, **Students admission, training of students, video lectures collection for students, Online Examination etc**. We have also strong **ERP system** for maintaining **financial activities**. GNIT has **Wi-Fi Campus** with adequate 60+ access points, 50+ Switches, **High-end Firewall device** with 50 Mbps Railtel and 25 Mbps Alliance Lease line connections to augment the implementation of the IT measures.
- **Faculty development** is a continuous process for uplifting the status of **outcome based education**. In 2020-21, 95% faculty members attended faculty development program (FDP) and GNIT has conducted many **FDPs in collaboration of different agencies**.
- GNIT has strong and fully fledged **internal quality assurance committee (IQAC)**. Under the banner of this cell, different activities have been performing over the years for **quality assessments of this Institute**.
- Apart from that we have **grievance handling committee, purchase and maintenance committee, anti-ragging committee** for smooth running of its governance policies. The grievance handling committee handles all kind of grievances of students and stuffs to take the quick actions to resolve the issues. The purchase and maintenance committee provides the financial support and acts through a well-established procedure. Anti-ragging committee headed by the Principal of this Institute where faculty and student members are there from each and every Department. The Management and Principal of this Institute has a good plan to enhance the quality of this Institute in future days where IQAC is the integral part of this.

Criterion VII:- Institutional Values and Best Practices

7.1: Institutional Values and Social Responsibilities:

This criterion evaluates the standards maintained by the Institute as an environmentally aware, eco-friendly unit promoting sustainable development.

The uses of energy conservation, uses of renewable energy (like solar energy), water harvesting, and measures for reducing carbon emissions, tree plantation and practices for e-waste management are covered. The presence of gender sensitization programmers, promotion of gender equity, support facilities for women on campus, the maintenance of a disabled-friendly and barrier-free environment. Also, institutional efforts at creating an inclusive environment through promoting tolerance and harmony in cultural, regional, linguistic and socio-economic diversities. Also, code of conduct for students and staff and celebration of international and national commemorative days.

7.2: Best Practices:

Studies the innovation introduced in the functioning of the Institute in the last four years which have positively impacted functioning, like e-governance in the administrative functioning, use of Learning Management Software in the teaching-learning process, updated library infrastructure with internet connectivity, e-journals, e-books and research publications, state-of-the-art teaching infrastructure, with smart classrooms and digital learning platforms, high profile research laboratories with updated R & D infrastructure, updated Institute website, connectivity with students and guardians using social media platforms, student participation in national and international industrial fairs, tech symposia and exhibitions, active student participation in NSS programme, a full-fledged self-funded NSS Unit, active teacher and student participation in social awareness programmes, involvement in online learning platforms like Coursera and NPTEL and maintaining a digital repository of course content.

Maintaining a quality academic system with regular syllabus revision, monitoring by Academic Committees and BOS, generation of supplementary course content, attendance monitoring and student feedback.

Maintaining a quality administrative system, with Principal, HODs and laboratory-in-charges for overall supervision and an Exam Cell and administrative and infrastructural maintenance.

Performance monitoring of student academic progress through semester and other evaluations, supervised project-work, remedial and teacher coordination with parents through interactive PTMs.

Student evaluation through semester and other evaluation and maintaining a student information database. Involvement in student placement and entry into higher education.

Conducting national, international and regional-level academic events like seminars, workshops and FDPs and innovation in R & D activities through research initiatives, entrepreneurial efforts and developmental initiatives.

Student exposure to industries, presence of industry mentor, industry role in curriculum planning, consultancy and extension lectures, industrial internship and continuing education, industrial visits and training, industry-related projects and placement initiatives through a well-developed T & P Cell.

Interactive teaching-learning, computer-assisted learning (CAL).

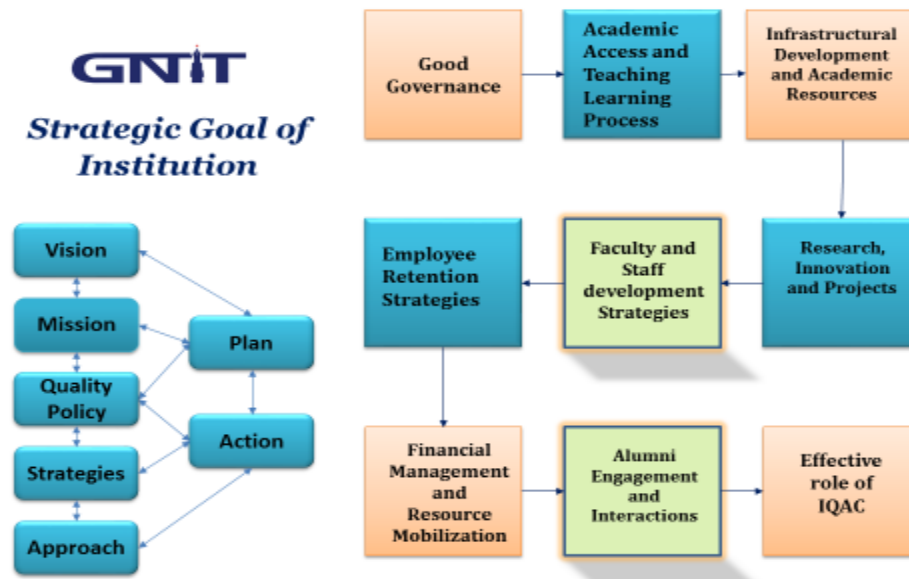
Innovative infrastructural planning, instructional methods, assessment, incentive and reward schemes, faculty development initiatives, and innovative social practices.

7.3: Institutional Distinctiveness:

Elaboration on distinctiveness which have contributed to the Quality improvement of the core activities of the Institute, with the following sub-divisions: goal, context, actions taken, and practice outcomes.

- **Goals**

- To ignite young minds with creativity and educate them to produce a galaxy of young professionals of outstanding ability to become leaders in their professional lives and responsible citizens who can meet the socio-economic challenges.



Goals for the period of 2020-2025 on Research and Development

- 50% of the total faculty to be awarded with PhD degree by 2025.
- All of the faculty from each department should have at least one publication in SCI/SCOPUS/Web of Science in each year and the Number of publication should be increased year by year.
- External research grant should be availed by each department.
- Students research paper publication from each department to be increased.
- More Initiatives should be taken to encourage the students for Start-ups and entrepreneurship.
- Faculty members to be involved in consultancy work using their own expertise.
- More number of MOUs to be signed by each department with the academic and research organizations to increase the quality of academics and research in the Institution.

Goals for the period of 2020-2025 on Human Resource Management

- Organization of FDP, STTP, Workshop, and Seminar on IPR related program.
- Conduction of Periodical staff meetings · Infrastructural support.

Goals for the period of 2020-2025 on Curriculum Development

- Restructure of Curriculum by following the guidelines of AICTE.
- Introduction of MOOCS courses and choice based credit system
- Continuation of beyond curriculum training program.

Goals for the period of 2020-2025 on Accreditation & Ranking

- NAAC Accreditation with A+ grade
- NBA accreditation of all UG programs by 2022.
- NIRF ranking within top 150 Engineering Institutes by 2023
- Good QS Rating by 2023

Goals for the period of 2020-2025 on Library, ICT and Physical Infrastructure / Instrumentation

- Enhance the collection of library books and other library resources.
- Subscription of more e-journal and e-books.
- Library infrastructure development.

Goals for the period of 2020-2025 on Industry Interaction / Collaboration

- MOU with industry to be increased.
- Industry internship program and industrial tour for students to be conducted more frequently.
- Industry sponsored Lab to be developed.

Goals for the period of 2020-2025 on Outcome of Students

- More students should be encouraged for higher studies.

- Involvement of the students in research activity should be increased.
- Participation in different level project and idea competition to be increased.
- 80% placement in each department.

Curriculum Development

Core committee Meeting on Deliberations on the agenda under the purvue of Committee-B

During COVID 19 Lockdown

Dtd: 25.07.2020

Minutes of meeting of Core Committee B

A meeting has been held on Google platform on 25/07/2020 from 05.00 pm to 07.00 pm to discuss the issues of future Activities and Planning of core committee B under the recommendation of JIS group.

Agenda:

1. Customization of Syllabus and Scope of Subjects where Emerging Trend of Demand considering Present situation.
2. Finalization of Selective assignments on Latest Developing Technology
3. Balance of Course Materials, assignments, Questions & Answers, Problem Solving Techniques, Question Bank and Student Participations.
4. Proper implementation of NPTEL & MOOCs Courses.

Members Attended the Core committee B Meeting as on 25th July 2020:

1. Prof. (Dr.) Santanu Sen– Chairman of the Committee
2. Dr. Sunipa Roy,HOD, ECE Dept. GNIT- Convener
3. Dr. Adhish Kr. Chakrabarty, GNIT- Member
4. Dr. Arun Kumar Mondal, GNIT- Member
5. Dr Kakali Bandyopadhaya, GNIT- Member
6. Dr. Barnali Kundu,HOD, EE Deptt. GNIT- Member
7. Dr. Sangeeta Bhattacharya,HOD, CSE Deptt. GNIT- Member
8. Ms Bapita Roy, HOD, AEIE Deptt , GNIT- Member
9. Dr Moumita Das, HOD, IT Deptt GNIT –Member

At the onset, the Prof. (Dr.) Santanu Sen, Principal GNIT welcomes all the attending members.

Agenda 1: Customization of Syllabus and Scope of Subjects with Emerging Trend of Demand considering Present Situation

10. Chairman advised that the Board of Studies (BoS) for the colleges under JIS group should include eminent persons from the industry, from academia which is already been implemented in all JIS group colleges. Chairman also suggested including of other disciplines faculty members to get feedback on inter-disciplinary aspects. The point was appreciated by all.

- Prof. Santanu Kumar Sen informed that as per the directives of Managing Director, JIS grp, B.Sc courses on IOT, Data Science, Cyber security etc are going to be incorporated in coming semester under JIS University curriculum but to be implemented by group colleges. GNIT already has taken the initiatives in doing so. Principal NiT informed that JIS university is not eligible to open Diploma courses, it can offer only certification courses.
- Chairman Suggested following changes in the curriculum:
 - Modules of 1 or 2 credits each can be included, to focus on the emerging topics and engineering skills (e.g. Python, Data Science, Tensorflow, pytorch, Java, Blockchain, etc.).
 - Industry related subjects should be included and resource persons from industry can be invited as Adjunct Faculty for the courses.
 - More new courses should be introduced as Open Electives, like Python, Data science, Machine learning, etc. which are already there in JIS curriculum.
 - Faculty members should float new electives based on his/her research interests i.e. supervised subjects. This will encourage the creation of Mini-hubs of Excellence.
 - Choice-based Credit System (CBCS) can be explored – difficult to implement as the parent university MAKAUT is not having this CBCS system right now.

Committee appreciated the recommendations.

- We have in our system, Degree with Honours where student has to earn 20 Credits from MOOCS or SWAYAM or similar platform. The student has to choose subjects from a basket where different credit structure subjects are there.
- Chairman suggested to introduce “**Minor in Engineering**” which will also add some value to the degree. Like for example Civil Engineering Student can do Minor in Electrical Engineering, and so on. These courses can be taken from MOOCS or SWAYAM or similar platform.

Agenda 2: Finalization of Selective Assignments on Latest Developing Technology:

- As per the chairman, Small video of emerging technology can be developed and for that Faculty members can make field visits where such latest technologies are available, and

can prepare video coverage based on the experience. They can take help from eminent experts also.

Regarding Types of assignments, committee suggested:

- More emphasis on tutorials beyond regular classes.
- Greater emphasis on problem solving, with GATE-standard questions.
- Project and case-study based assignments for most of the courses.

In addition to above, Chairman also advised for a set of identified emerging areas, some Department @ College can be identified where a small group of faculty members can take the initiative to develop expertise in consultation with industry. The entire JIS group can reap the benefit.

Agenda 3: Balance of course materials, assignments, questions & answers, problem-solving techniques, question bank and student participations:

Chairman advised to incorporate an effective feedback system in in-between semester (twice or thrice) so that corrective measures can be taken as required.

Further recommendations of committee are as follows:

- Regarding questions and assignments, MCQ questions may be good for quizzes and in-class assignments, but should be avoided in take-home assignments and final examinations.
- MCQ should be replaced by fill-in-the-blanks or short answer type questions.
- Even if MCQ are used, they must be numerical based, involving non-trivial efforts on part of the students.
- All assignments should be of problem centric. Q&A should be balanced between subjective and objective types.
- For greater involvement in the classes, students can be asked to frame questions and assignments based on the topics they have studied, which can go to a common question bank database after suitable moderation.
- Student groups (10 students each) can be formed and the above point can be merged with their internal marks after some predefined calculations.
- Regarding conduction of on-line classes:
 - As all the faculty members are recording video lectures, we can go for a discussion forum by sharing the video with students, and then discussing in the class with some form of quiz, assignment, etc.
 - Besides the regular on-line classes, online test should be conducted beyond scheduled hours once in a week.
- Faculty development / initiative:
 - Video lectures developed by faculty members can be evaluated by external experts and also students, and feedback provided for improvement.

- Every course must have an accompanying “course web-site” that must be constantly upgraded with study materials, assignments and other information. The individual faculty members will be responsible for maintaining the web-site. Committee suggested to frame a template to have a parity among all course websites.
- Innovative experiments will be given priority in each department, under the supervision of Head. Some awards can also be constituted for Best Innovative Experiment.
- Faculty members should deliver regular seminars in the Department, which will be attended by other colleagues and students. This will promote Peer-Assisted Learning.

Committee highly appreciated the recommendation.

Agenda 4: Regarding NPTEL & MOOC courses:

Committee suggested:

- Since the courses under the SWAYAM platform are developed under a Government of India initiative, it is advised to adopt these courses for credit transfer.
 - The rules for credit transfer from these courses should be properly framed.
 - The examination enrolment fee of Rs. 1000 per subject should be suitably handled. If the students get at least 50% waiver that would be beneficial for them and numbers of enrolments would be increased.
 - Coursera and other similar platforms also offer a large number of courses but that is not GOI approved.
 - Faculty members can utilize the courses available under Coursera.
 - For the students we should focus on the SWAYAM courses for credit transfer.
 - AICTE Internshala courses are also available. Students can go for that. This is a certification course.
- Though faculties enrol regularly in SWAYAM courses, most are based on their subject topic. Every faculty member should opt one Emerging/Open Elective Course other than compulsory course available in the curriculum from SWAYAM/allied portal. Upon completion of the course, he/she would be identified as a resource person in special training programs under JIS group.

The meeting was ended with vote of thanks by Convener.

Syllabus committee Meeting

During COVID 19 Lockdown

Dtd: 30.07.2020

Minutes of meeting

A meeting has been held on Zoom platform on 29/07/2020 from 04.30 pm onwards to discuss the issues of Observations on the curriculum of other institutes/universities with the curriculum of JIS group Autonomy.

Agenda:

Observations on the curriculum of other institutes/universities with the curriculum of JIS group Autonomy

Members Attended:

1. Prof. (Dr.) Santanu Sen– Chairman of the Committee
2. Dr. Sunipa Roy,HOD, ECE Dept. GNIT- Convener
3. Dr. Adhish Kr. Chakrabarty, GNIT- Member
4. Dr. Arun Kumar Mondal, GNIT- Member
5. Dr Kakali Bandyopadhaya, GNIT- Member
6. Dr. Barnali Kundu,HOD, EE Deptt. GNIT- Member
7. Dr. Sangeeta Bhattacharya,HOD, CSE Deptt. GNIT- Member
8. Ms Bapita Roy, HOD, AEIE Deptt , GNIT- Member
9. Dr Moumita Das, HOD, IT Deptt GNIT –Member
- 10.

At the onset, the Prof. (Dr.) Santanu Sen, Principal GNIT welcomes all the attending members. and then following discussions took place:

Agenda: Observations on the curriculum of other institutes/universities with the curriculum of JIS group Autonomy

First of all the committee unanimously decided the name of convener of the syllabus committee, Dr. Sunipa Roy, HOD ECE GNIT.

After that Chairman asked to present the observations made by the committee members on others institutes curriculum (e.g. IEM Kolkata) that was sent to the members for review.

HOD CSE GNIT first placed her opinion on IEM curriculum including following points:

- No of subjects are much more on 3rd/4th sem as per others curriculum.
- Few courses are repeated.
- Mandatory courses are given credit.
- Biology incorporated in 7th sem

Chairman advised that every 3-4 yrs curriculum should be revised.

Some institutes put credit points (2-3) to the Project.

Principal GNIT expressed that there are so many emerging subjects have been included newly in R18 autonomy curriculum of JIS group to make it complete in all aspect.

Committee discussed the fact that it is not possible to make the students equipped with all subjects. The curriculum should be in compliance with regulatory board (AICTE/WBUT).

The OE and PE can never be one. Students should give the choice to select any.

Chairman syllabus committee advised all the syllabus committee coordinator to prepare 7th and 8th semester syllabus which have to be submitted by December 2020.

The date will be finalized very soon.

Finally Chairman advised to forward a very brief write up on JIS autonomy curriculum mentioning its pros & cons or any further revision needed by reviewing other institutes/university curriculum (IEM as sent) to the chairman with Cc to convener.

The meeting ended with vote of thanks by the Chairman.

Syllabus committee Meeting

Dtd: 10.02.2021

Minutes of meeting

A meeting has been held on Zoom platform on 09/02/2021 from 02.00 pm onwards to discuss the following issues.

Agenda:

- 1. Finalization and submission of syllabus of 7th and 8th Semester under Autonomy curriculum by the departmental coordinator of JIS group colleges.**
- 2. Proposal of R21 curriculum.**

Members Attended:

1. Prof. (Dr.) Santanu Sen– Chairman of the Committee
2. Dr. Sunipa Roy,HOD, ECE Dept. GNIT- Convener
3. Dr. Adhish Kr. Chakrabarty, GNIT- Member
4. Dr. Arun Kumar Mondal, GNIT- Member
5. Dr Kakali Bandyopadhaya, GNIT- Member
6. Dr. Barnali Kundu,HOD, EE Deptt. GNIT- Member
7. Dr. Sangeeta Bhattacharya,HOD, CSE Deptt. GNIT- Member
8. Ms Bapita Roy, HOD, AEIE Deptt , GNIT- Member
9. Dr Moumita Das, HOD, IT Deptt GNIT –Member

At the onset, the Prof. (Dr.) Santanu Sen, Principal GNIT welcomes all the attending members and following discussions took place:

Agenda: Observations on the curriculum of other institutes/universities with the curriculum of JIS group Autonomy

1. R18 7th semester and 8th semester curriculum to be submitted as per format by 15th March 2021. If not then the submission of 8th semester curriculum (only) can be

- extended upto 31st March. It is suggested to execute BOS meeting department wise before submission of the syllabus.
2. After R16 and R18 curriculum it was proposed in the meeting to frame R21 curriculum as after every 3 years revision is due.
 3. First year curriculum to be revised as per the norms. One member from each three group colleges will act as coordinator as suggested in the meeting.
 4. After collecting the feedback the committee decided to start working on R21 curriculum from 1st week of April. AICTE model curriculum should be taken as reference.
 5. It was proposed in the meeting to add elective subjects as much as possible in R21 curriculum.
 6. Revised curriculum with 1st semester syllabus (R21) for PG/M.Tech course of respective colleges to be submitted to the chairman by 30th April 2021. It was suggested to frame a committee with senior professors (Regular/Adjunct) by the department of respective colleges and also to be approved by departmental BOS.
 7. The syllabus of 'Social Awareness' (MC Code) to be forwarded by Dr Kakali Bandopadhaya of GNIT to all the committee members.
 8. The syllabus of 'Behavioral and Interpersonal skill' to be forwarded by Head, CSE GNIT to all.

The meeting ended with vote of thanks by the Chairman.

Syllabus committee Meeting

Dtd: 01.04.2021

Minutes of meeting

A meeting has been held on Zoom platform on 31/03/2021 from 12.15 pm onwards to discuss the following issues.

Agenda:

- 1. Completion of R18 Autonomy Curriculum**
- 2. Commencement of R21 Autonomy Curriculum**
- 3. Inclusion of Additional subjects in R21 Curriculum**
- 4. Inclusion of 20 credit MOOCs courses for B.Tech with Honours**

Members Attended:

1. Prof. (Dr.) Santanu Sen– Chairman of the Committee
2. Dr. Sunipa Roy,HOD, ECE Dept. GNIT- Convener
3. Dr. Adhish Kr. Chakrabarty, GNIT- Member
4. Dr. Arun Kumar Mondal, GNIT- Member
5. Dr Kakali Bandyopadhaya, GNIT- Member
6. Dr. Barnali Kundu,HOD, EE Deptt. GNIT- Member
7. Dr. Sangeeta Bhattacharya,HOD, CSE Deptt. GNIT- Member
8. Ms Bapita Roy, HOD, AEIE Deptt , GNIT- Member
9. Dr Moumita Das, HOD, IT Deptt GNIT –Member

At the onset, the Prof. (Dr.) Santanu Sen Principal GNIT welcomes all the attending members. and then following discussions took place:

Agenda 1: Completion of R18 Autonomy Curriculum

Submission of R18 7th and 8th sem syllabus by 01.04.2021 was decided in the meeting. As did earlier, the page numbers should be written properly (e.g. 1 out of 100) at bottom right corner and the syllabus should be superscript with proper nomenclature e.g. R18 ME at top right corner.

Respective coordinator should submit the syllabus in a single PDF format starting with entire curriculum and then semester wise curriculum and respective syllabus of the subjects. The committee agreed with the format given.

Before submission of syllabus, the same should be approved by BOS members.

As per the decision of the core committee, any emerging subjects can be included as Open elective subject in support of choice based credit system (CBCS).

MC code subjects for which syllabus not framed earlier can be revised with proper syllabus (Like Technical lecture presentation and GD II).

Agenda 2: Commencement of R21 Autonomy Curriculum

Based on the observations of other institutes/universities curriculum R21 Autonomy first year draft curriculum has been framed.

The draft curriculum has been shown to all and forwarded through email. A comparative study with other institutions was also presented. Chairman suggested the coordinators of respective colleges to forward their suggestion (compliance or non compliance for both the cases) to the chairman by 02.04.2021.

Agenda 3: Inclusion of Additional subjects in R21 Curriculum

As per the decision of the committee, the R21 curriculum (1st and 2nd sem) should be framed and submitted to Chairman by 05.04.2021 (Monday) by the Coordinators with Cc to respective HODs. Department specific Physics I syllabus formation has been suggested as to follow the AICTE model curriculum.

Physics II inclusion is subject to the decision of the Coordinators of departments with the proper justification. It was suggested to follow the AICTE model curriculum to make the R21 curriculum as per standard.

In support of Project based learning, PR code subjects like Project (PR 191/291 and so on) should be considered under 'Internal assessment' category of 70 marks and it should be omitted from the curriculum of each and every semester. Rather inclusion of 'Beyond curriculum training (BCT)' and "Soft Skills" etc. has been in suggested in the meeting.

Internal assessment marks can be categorised like 5 (attendance)+10 (project)+15(through assessment). The decision yet to be finalized soon.

Agenda 4: Inclusion of 20 credit MOOCs courses for B.Tech with Honours

20 credit NPTEL courses of 4 weeks, 8 weeks and 12 weeks (shall be of 2, 3 and 4 credits respectively) through MOOCs can be incorporated for B.Tech with honours degree where students can register directly in either of the semester and may be cleared during their B,Tech degree. After completion, students can submit the certificates to respective COE through their college of study.

As per AICTE, on successful completion of MOOCs with 20 credit and if, he/she secured 7.5 or above CGPA and passed the subjects in a single attempt without any grace marks, then only a student eligible for honours degree.

In addition to that, Principal JISCE suggested, a student shall be eligible to get B.Tech with honours, only he/she completes additional R21 curriculum recommended courses (equivalent to 20 credits; NPTEL). E.g. 3 subjects on emerging area may be included in the curriculum stream wise.

If MOOCs courses are selected, the lecture hours may be incorporated in the curriculum to engage faculty with doubt clearing sessions. In that case, faculty should also have to register to the similar course to discuss the content present over there.

The matter yet to be finalized.

Agenda 5: MOU

A MOU has been signed with Coursera by the management and same will be incorporated in the policy document very soon. A judicial mapping of courses is suggested from departments.

Agenda 6: Miscellaneous

Laboratory syllabus change was also suggested by one of the committee members and 'Virtual laboratory' may be incorporated as suggested by AICTE.

Indian knowledge system can be incorporated with new perspective as mentioned in the meeting.

A special thanks was given by the Chairman to all the members for the successful completion of R18 curriculum.

Syllabus committee Meeting

Dtd: 10.04.2021

Minutes of meeting

A meeting has been held on Zoom platform on 10/04/2021 from 11.30 am onwards to discuss the following issues.

Members Attended:

1. Prof. (Dr.) Santanu Sen– Chairman of the Committee
2. Dr. Sunipa Roy,HOD, ECE Dept. GNIT- Convener
3. Dr. Adhish Kr. Chakrabarty, GNIT- Member
4. Dr. Arun Kumar Mondal, GNIT- Member
5. Dr Kakali Bandyopadhaya, GNIT- Member
6. Dr. Barnali Kundu,HOD, EE Deptt. GNIT- Member
7. Dr. Sangeeta Bhattacharya,HOD, CSE Deptt. GNIT- Member
8. Ms Bapita Roy, HOD, AEIE Deptt , GNIT- Member
9. Dr Moumita Das, HOD, IT Deptt GNIT –Member

The following discussions took place:

1. First year curriculum should be common for all.
2. Subject wise modification of basic science course looking to the application of engineering programme.
3. Basic electrical engineering should be distributed in sem 1 and 2 keeping on teaching load and **(student strength)**.
4. **If any discipline decide to keep physics 2, it can be kept in third or fourth semester as it was. This is not mandatory.**
5. **For non-circuit branches ‘Electronics Circuits’ may be included in 3rd sem with credit point 2.**
6. Soft skill/Aptitude/ Life skill to be incorporated with 2 credit from 1st sem to 8th sem of all curriculum.

7. BCT to be incorporated separately in the curriculum from 3rd sem onwards upto 8th sem. Project of R18 curriculum will be replaced by all these (BCT/ Soft skill/Aptitude/ Life skill etc).
8. Innovation/Entrepreneurship skill related subjects to be incorporated from 3rd sem to 6th sem (applicable for all). However, it may be included in minor degree also. The syllabus of above mentioned subject to be framed as per the guideline of AICTE/Institute of repute..
9. Engineering Graphics and Design syllabus must be modified including CAD tools for each and every discipline. It has been decided by the committee that 50% of the syllabus will cover engineering drawing and 50% will cover CAD software related topic. This subject should also be distributed in sem 1 and 2 keeping on teaching load and availability of laboratory.
10. The subject 'English' may be replaced by 'Professional communication / Communication Skill' at all branches.
11. For Minor degree and honors courses the guideline of AICTE should be followed strictly. (Follow Annex I)
12. From 1st sem to 8th sem 2 courses in each sem and each branches should be mapped with MOOCs. Students have to go for certification. This MOOCS courses may be included in minor degree or honors course as well. AICTE approval is not required for offering Minor Degree/Hons.
In all, total 20 credits to be earned by the students in 4 years of their B.Tech.
13. Mapping of minor/honors courses in addition to other MOOCs courses should be mentioned in the curriculum in the MOOCs basket in support of CBCS system.
14. Review of Values & Ethics Syllabus for gender sensitization module.
15. Question papers to be framed to enhance the level of critical thinking of students.

Meeting ended with thanks by the Chairman.

Annexure I

Detailed rules and regulations of this scheme are given below [Collected from

AICTE APH 2020-21]

- 7.3.2 All branches of Engineering and Technology shall offer Elective Courses in the EMERGING AREAS viz., Artificial Intelligence (AI), Internet of Things (IoT), Blockchain, Robotics, Quantum Computing, Data Sciences, Cyber Security, 3D Printing and Design, Augmented Reality/ Virtual Reality (AR/VR), as specified in Annexure 1 of the Approval Process Handbook.
- a. Under Graduate Degree Courses in EMERGING AREAS shall be allowed as specialization from the same Department. The minimum additional Credits for such Courses shall be in the range of 18-20 and the same shall be mentioned in the degree, as specialization in that particular area. For example, doing extra credits for Robotics in Mechanical Engineering shall earn B.E./ B.Tech. (Hons.) Mechanical Engineering with specialization in Robotics.**
- b. Minor specialization in EMERGING AREAS in Under Graduate Degree Courses may be allowed where a student of another Department shall take the minimum additional Credits in the range of 18-20 and get a degree with minor from another Department.**
- c. Universities are free to evolve their own Syllabus for any Minor Degree / Hons. for which Model Syllabus is not available on AICTE's Website.
- d. If an Institution is having the required Infrastructure facilities, Faculty and other requirements as per the Approval Process Handbook, for conducting the Core (Under Graduate Degree) Courses, the specialization in EMERGING AREAS shall be permitted WITHIN THE APPROVED INTAKE WITHOUT HAMPERING THE GENERIC COURSE.
- e. The Institutions/ Universities shall adopt the following important instruction while offering the Minor Degrees/Hons. in Emerging Areas: **[Follow APH 2020-21, Chapter 7, Sec 7.3.2]**

Areas in which Minor Degree/Hons. may be offered are numerous. It is up to the Universities with the help of their Academic Board/Council to decide whether Minor Degree/Hons. is to be offered or not in any particular area, which is not mentioned above. AICTE approval is not required for offering Minor Degree/Hons. in any such area, however the criteria that “Minor Degree or Hons. will cumulatively require additional 18 to 20 credits in the specified area in addition to the credits essential for obtaining the Under Graduate Degree in Major Discipline (i.e. 160 credits)”.

Syllabus committee Meeting

Dtd: 11.08.2021

Minutes of meeting

A meeting has been held on Zoom platform on 11.08.2021 from 3:30 pm onwards to discuss the following issues.

Agenda:

- **Discussions on New UGC Guideline**
- **Discussions on CO-PO and CO-PSO mapping in R18 Curriculum and syllabus framing of R21 Curriculum**
- **Miscellaneous**

Members Attended:

1. Prof. (Dr.) Santanu Sen– Chairman of the Committee
2. Dr. Sunipa Roy,HOD, ECE Dept. GNIT- Convener
3. Dr. Adhish Kr. Chakrabarty, GNIT- Member
4. Dr. Arun Kumar Mondal, GNIT- Member
5. Dr Kakali Bandyopadhaya, GNIT- Member
6. Dr. Barnali Kundu,HOD, EE Deptt. GNIT- Member
7. Dr. Sangeeta Bhattacharya,HOD, CSE Deptt. GNIT- Member
8. Ms Bapita Roy, HOD, AEIE Deptt , GNIT- Member
9. Dr Moumita Das, HOD, IT Deptt GNIT –Member

Discussions on New UGC Guideline

Chairman first briefed the new UGC guideline where Universities and Autonomous/Affiliated Colleges are accredited by National Assessment and Accreditation Council (NAAC) or any such body to be recognized in future, at least at ‘A’ grade level, irrespective of the programme-based accreditation status, are eligible to get registered under the ABC (Academic Bank of Credit) Scheme with some other mandatory restrictions in the policy.

- **Revision of CO-PO and CO-PSO mapping in R18 Autonomy Curriculum**

As discussed in the meeting, the date of submission of R21 curriculum and syllabus for 9 existing programs with CO-PO mapping has been decided as 31st August 2021.

Likewise, Submission of curriculum and syllabus of 5 new B.Tech programs of all 3 colleges, with CO-PO mapping has been decided as 20th September 2021. It is suggested to do separate BOS for all the new programs to submit the syllabus. In furtherance to this discussion, a point raised where chairman stated that in case of central BOS, colleges should segregate the individual status and present by their own in upcoming visit (if any).

Further, as the situation demands, rectification of CO-PO mapping in R18 syllabus and the consecutive submission by 10th September 2021 has been decided. It is also suggested, the maximum utilization of points (1-poor, 2-moderate, 3-strong) in CO-PO/CO-PSO mapping to have utmost CO attainment as well as PO attainment in 3 point scale . Among 12 POs, maximum consumption is suggested.

- **Miscellaneous**

R21 first year formatted syllabus and curriculum will be done by core syllabus committee before submission. All subject coordinators of first year were suggested to forward the same to Chairman/core committee/concerned members.