

**MINUTES OF THE THIRD MEETING OF THE  
INTERNAL QUALITY ASSURANCE CELL  
HELD ON 6<sup>th</sup> MARCH, 2017**

The third meeting of the Internal Quality Assurance Cell (IQAC) was held on 6<sup>th</sup> March, 2017 at 4.00 pm., in Board Room, DA-IICT.

The following members were present:

1. Prof NagarajRamrao, Director, DA\_IICT, Chairman
2. Prof SumanMitra, Dean (AP), DA-IICT, Director, IQAC
3. Prof RanenduGhosh, Dean (Students), DA-IICT, Faculty Member
4. Prof Sanjeev Gupta, Dean (R&D), DA-IICT, Faculty Member
5. Prof Sanjay Srivastava, Faculty Member
6. Prof Asim Banerjee, Convenor, Placement, Faculty Member
7. Mr Soman Nair, Executive Registrar, DA-IICT, Administrative Member
8. MrHasendrasinhJhala, Head (HR&Admin), DA-IICT, Administrative Member
9. Mr Manish Berwani, Student, DA-IICT, Student Member

The following officials from DA-IICT have attended the meeting at the invitation of the Chairman:

1. Prof Maniklal Das, Convenor, UG Programme
2. Prof MinalBhise,
3. MrJalpeshPandya, Assistant Registrar

Leave of absence was granted to the following members:

- 1) Mr Suresh Rangachar, Reliance Communications, Management Member
- 2) MrAnamitra Das, TCS Gandhinagar, Member from Employer
- 3) MrSwapnilKhandelwal, Alumnus, Alumni Member
- 4) MrRoghuvirSonghela, Alumnus, Alumni Member
- 5) MrSuchit Gandhi, Student, DA-IICT, Student Member

The following items were discussed at the meeting:

**Item No. 1 Approval of the minutes of the previous meeting**

The Chairman referred to the minutes of the previous meeting and stated that he did not receive any comments on the minutes. The meeting therefore, confirmed the minutes.

## **Item No. 2 To consider nomination of student and alumni representatives**

Prof SumanMitra proposed the nomination of Ms. AnupamaPanchal, an Alumna of the Institute and Chief Technical Officer and Co-founder, Gridle.io, as an additional member representing the Alumni. He also brought to the notice of the meeting that since the present student members are in their fourth year of studies and will be graduating, in place of them, nominations will be invited from students who are moving to the fourth year. It was decided to initiate the nominations soon after the elections to the Student Body in Government (SBG) are completed.

## **Item No. 3 To note the report of the MTech (ICT) Curriculum Review Report**

Prof Maniklal Das, Convenor, Review Committee stated the Committee consisted of five members from DA-IICT and two external members, Prof KamalakarKarlappam, IIIT Hyderabad and Prof Pratik Shah, IIIT Vadodara. He also informed that the final report is prepared after considering feedback from Academic Council and Board of Studies and the report has also gone through the review of faculty and external experts. He summarizedas follows:

- The restructured Program is offered in two modes -- project and thesis modes. The student was allowed to exercise this option at the time of admission.
- The curriculum does not have explicit specialization. The first semester courses provide basic foundation in ICT and are common to all the students. This is expected to bring them on par with one another and prepare them to choose courses/research in the subsequent semesters.
- In the second semester onwards students will be given choice-based core and elective courses in interdisciplinary domains and then project/thesis by which a student can show breadth in domain knowledge in ICT and robust skills in preferred areas/specializations.
- The revised curriculum has incorporated lab components in some courses with latest technologies and tools, which is expected to strengthen students' skills with practical knowledge.
- The curriculum structure has compulsory foundation courses in the beginning followed by group core termed as domain knowledge in ICT and electives in ICT and finally either a Thesis spread over in third and fourth semesters or an Industry Project. The restructured curriculum has 60 credits compared to the previous curriculum of 48 credits.

A summary of the Report is attached as Annexure to the minutes of the meeting for reference of the members.

#### **Item No. 4 Report on the M.Sc (IT) Curriculum Appraisal Committee**

Prof. MinalBhise as Convenor of the Committee briefed the meeting that the objective of the appraisal was (a) to identify the knowledge areas required for the curriculum, map courses objectives with program objectives and align sequences of courses to tune with the industry needs. She presented the process of appraisal and summarized as follows:

- Strengthened Programming, Data Structures, Algorithm and Communication Skills areas.
- Moved Operating Systems and Computer Organization, core courses to the technical electives.
- Added System Programming, 'C' Programming and Web Programming as Core courses.
- The core courses, Computer Networks and Software Engineering that are relevant for placement have been brought forward from third to second semester.
- The core course 'Enterprise Computing' has been redesigned based on industry needs.
- Restructured courses such as Cloud Computing, E-Commerce and Big Data Analytics.

The meeting noted the briefing by Prof Bhise.

#### **Item No. 5 Report on the Admissions 2017**

Shri Soman Nair briefed the meeting that the admissions to all programs for the academic year 2017-18 have been completed. He stated that the admissions committee is in the process of preparing a detailed report and the summary of the report will be presented before the ensuing meeting.

#### **Item No. 6 Preparation of AQAR**

It was decided to prepare and finalise the first annual report of AQAR by February, 2018.

#### **Item No. 7 A web page for IQAC**

The meeting noted that a separate web page has been created at the web site of the Institute.

## **Item No. 7 Workshop on IQAC and best practices**

The Chairman reported that action is being taken to organize a few workshops on IQAC at the Institute in phased manner with a view to orient the members of the Cell as well as faculty members, officers and staff on the importance of IQAC and its best practices.

The meeting noted the following major initiatives taken by the Institute with a view to improve quality of its teaching programs and services extended to alumni and students:

1. Reviewed and restructured the BTech (ICT) program in 2016.
2. Reviewed and restructured in M.Tech (ICT) program and the restructured program is being offered from 2017-18 academic year.
3. Appraised the M.Sc (IT) Program and the changes have been incorporated to the program from the academic year 2017-18.
4. Nanyang Technical University (NTU), Singapore has included DA-IICT as one of the Indian Institutions for the NTU-India Connect Research Internship Program.
5. Professors N Sundararajan and S Suresh, faculty members, NTU and Dr. Jagannathan Sarangapani, Rutledge Emerson Distinguished Professor, Missouri University Of Science & Technology, USA have conducted a technical elective course titled 'Selected Topic in Neural Networks and their Applications' to the BTech students of 2013 and 2014 batches and MTech students during the last summer semester and winter holidays.
6. Prof Nitin Upadhyay, Goa Institute of Management offered a special course on 'Computational Data Science' to the BTech (ICT), MTech and MSc (IT) students during the last winter holidays.
7. Discontinued the practice of taking offline course feedback. An in-house designed online course feedback system has been implemented.
8. Upgraded the design of USPMES (University Student Project Management & Evaluation System), a system to archive and evaluate various projects by students. The system is used to manage internship and final projects of the students.
9. Designed and developed a Student Service Request System (SSRS) for the students and alumni to pay and apply online for certificates and other documents. The system helps the applicants also pay online, track movement of documents.
10. QPUS (Question Paper Upload System) is an online system for uploading question papers by Faculty from their login with adequate security measures.

**ANNEXURE**

# **MTech(ICT) Curriculum 2017**

## **Summary Report**



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## Summary

DA-IICT is a university devoted to Information and Communication Technology education and research. DA-IICT offers a unique two-year postgraduate program leading to the degree of Master of Technology in Information and Communication Technology - MTech(ICT). ICT embodies the convergence of Computer and Communication systems and has obtained wide acceptance as a distinct discipline, dealing with accessing, storage, processing, transmission, reception and display of information, primarily using digital systems and techniques. Logically this convergence takes place at the systems level, but at the same time it is necessary to accept a certain level of granularity as one goes down to the level of circuits, devices and materials. The MTech(ICT) program has been designed to meet the increasing need for professionals who would be able to respond to the convergence between computers and communication systems.

The curriculum review process, started in October 2016, went through intensive interactions amongst specialized groups of faculty, formal meetings with faculty at large, discussion with external experts and multiple rounds of brain storming within the MTCRC. The revised curriculum is broadly classified into 4 categories of courses. The first category, referred to as Program core, is a set of compulsory courses required to be taken by every student in the program. Program Core courses are foundational and compulsory, which will build core competence for getting into ICT domain knowledge areas. The second one is formed by a set of courses, referred to as the Group core, which adds the technical strength in breadth. The third one is formed by a set of courses, referred to as the Electives, which adds the technical strength in depth. The fourth one is either Thesis work (3<sup>rd</sup> and 4<sup>th</sup> semester) or Project work (4<sup>th</sup> semester).

The program aims to provide exposure to students who wish to build a professional career in ICT, working at the cutting edge of technology, research and development. On successful completion of the program, the students will be able to acquire essential technical and practical knowledge for solving real-world problems in the ICT domain using modern technologies and tools, and will have ability to demonstrate excellent analytical, logical and problem solving skills that would bridge the digital divide between urban and rural developments. The student will also have ability to acquire social and ethical attributes that enable them in applying their skills for societal needs with effective communication both orally and in writing.

## Credit requirement

The curriculum mandates 60 credits.

A Thesis Mode student is required to earn 38 credits from coursework and 22 credits from thesis work. Out of the 38 required coursework credits, 21 credits are allocated to compulsory courses (Program core) and 11 credits are allocated to three Group core courses in ICT domain, and 6-8 credits are allocated to two electives.

A Project Mode student is required to earn 47 credits from course work and 13 credits from project work. Out of the 47 required coursework credits, 21 credits are allocated to compulsory courses (Program core) and 14 credits are allocated to four Group core courses in ICT domain, and 12-14 credits are allocated to four electives. The distribution of credits in the curriculum is given in the following Table.

### Distribution of credits

Course/Thesis/Project	Thesis Mode		Project Mode	
	No. of credits	% of credits	No. of credits	% of credits
Program Core	21	35%	21	35%
Group Core	11	18%	14	23%
Electives	6	10%	12	20%
Project work			13	22%
Thesis work	22	37%		
<b>Total credits</b>	<b>60</b>		<b>60</b>	

## Graduation Requirements

- Total Credits  $\geq$  60

- Thesis Mode:

Course Credits  $\geq$  38

Research/Thesis Credits: 22

Project Mode:

Course Credits  $\geq$  47

Project Credits: 13

- CPI  $\geq$  6.0



- Student is required to pass all the courses including Thesis/Project.

## **Financial aid**

A Thesis Mode student may expect financial support by stipend at par with GATE scholarship in the form of Teaching Assistantship for undergraduate and postgraduate courses. Based on need and merits, eligible Project Mode students will also be supported by stipend. Weightage should be given to the performance of student in his/her TAship while deciding for the continuation of the TAship or amount of the stipend. The eligibility criteria and amount of Thesis mode and project mode stipend will be decided by academic administration of the Institute.

## **Major changes in the revised curriculum**

- Option for Thesis Mode and Project Mode [typically, 40% of the intake may be filled by Thesis Mode category and 60% by Project Mode category]. The selection of Thesis or Project mode will be done based on students' choice and counseling by faculty, which may be decided at the time of admission or at the end of First semester.
- No explicit specialization tag, instead, the curriculum structure captures the existing specialization strengths/requirements implicitly in the revised curriculum. The First semester courses are common to all students and provide foundation in Mathematics, Computer and Communication Systems required for subsequent semesters.
- First semester courses are restructured, which can bring all the students on par and enable them to have required foundation to pursue any ICT course/research in the subsequent semesters.
- From the second semester onwards students will be given choice based core and elective courses in interdisciplinary domains and then project/thesis by which a student can acquire breadth in domain knowledge in ICT and depth in his/her preferred areas/specializations.
- The revised curriculum incorporates Lab components in some courses with latest technologies and tools, which will strengthen students' skills with practical knowledge. Furthermore, an exclusive ICT Lab course has been added in First semester, which will train students to use latest tools and technologies in ICT.
- Thesis Mode student may be allowed *at most one self-study course in Third semester* based on the recommendation of the student's supervisor.

- If student does additional Groupcore than the stipulated number of courses, then the additional Group core course may be considered as elective.
- Summer has NO course work requirement, which encourages students to pursue internship/project.
- Overall 5 credits have been increased for graduation requirement in the revised curriculum. However, the semester load in the first and second semester has been increased. MTCRC believes, the increased load in the first and second semester is required for giving students a strong foundation in ICT that helps in subsequent semesters. Even though, the load in the first two semesters is heavier in comparison to the semester load in the current curriculum, the proposed semester load is comparable to other premier institutions.

*Some recommendations:*

- 'Project mode' and 'Thesis mode' students need to be decided based on students' choice and counseling by faculty, which may be decided at the time of admission or at the end of First semester. There may be provision for migration after Second semester with a goal of retaining 40% of students in Thesis mode category.
- Student admission can be through GATE in CSE and ECE (and allied disciplines like EE, IN). Interview/counseling at the time of admission may also be considered depending on operational viability and quality of input.
- Thesis mode category should get additional incentives (stipend) than project mode category.
- If Thesis work is not up to the mark then the student may be advised, at the end of third semester, to do a 5<sup>th</sup> semester project and course work to fulfill the degree requirement for 'Project Mode' category.
- Groupcore courses are mostly covering the existing specialization core and electives. However, some courses may require inclusion of Lab credits.
- Thesis evaluation should involve external experts as far as possible. Project evaluation through external experts is also recommended but may be optional for off-campus project through campus placement process.

The MTCRC carried out the entire exercise for bringing out the proposed curriculum structure as part of the process in all possible manners. MTCRC thank faculty and external experts for their active participation in the entire exercise of the curriculum revision process.

ManikLal Das

(Convenor)