

**INDIAN INSTITUTE OF INFORMATION TECHNOLOGY
DESIGN AND MANUFACTURING, KANCHEEPURAM**

Minutes of the 29th Senate Meeting held on Friday, 12th February 2016 at 3:00 PM at the Senate Hall, IIITDM Kancheepuram, Chennai-600 127.

The 29th Senate Meeting held on Friday, 12th February 2016 at 3:00 PM at the Senate Hall, IIITDM Kancheepuram, Chennai-600 127. Following members attended the meeting:

Prof. R. Gnanamoorthy, Director, Chairman

Members:

| | |
|---------------------------------------|---|
| Prof. S. Narayanan, IIITDM | Prof. Raghu V Prakash, IITM |
| Prof. L Vijayaraghavan, IITM | Dr. C. Mathiazhagan, Ms Market I, Japan |
| Prof. Nilesh J Vasa, IITM | Dr. Anand Lakshmanan, Ms Ericson Ltd |
| Prof. Hema A. Murthy, IITM | Dr. B. Ravikishore, Ms HCL. Ltd |
| Prof. V. Jagadeesh Kumar, IITM | Dr. M. Sathya Prasad. Ms Ashok Leyland. Ltd |
| Prof. Krishna Vasudevan, IITM | Dr. V. Masilamani, IIITDM |
| Prof. Krishnamoorthy Sivalingam, IITM | Dr. Shak Noor Mahammad, IIITDM |
| Dr. P. Damodharan, IIITDM | Dr. B. Shahul Hamid Khan, IIITDM |
| Dr. J. Umarani, IIITDM | |

Invitee

| | |
|-----------------------------|---------------------------------|
| Dr. Tapas Sil, IIITDM | Dr. Sudhir Varadharajan, IIITDM |
| Dr. Binsu J Kailath, IIITDM | Dr. Senthilkumaran K, IIITDM |
| Dr. B Sivaselvan, IIITDM | |

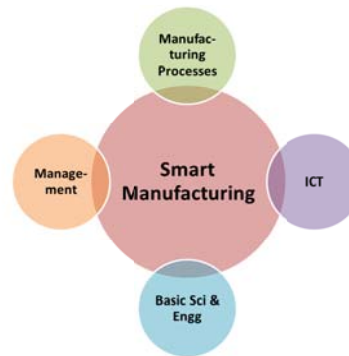
Prof. S. Santhakumar, Prof. P Chandramouli, Prof. K. Chandrasekaran, Prof. Harishankar Ramachandran, Prof R. Ramanujam, Prof. Ganesh Sundara Raman. S, Mr. Sandeep Ghosh, Dr. G. Venkatesh, and Dr. S. R. Pandian expressed their inability to attend the meeting.

The Chairman welcomed the members and briefed the Senate about the functioning of the Institute.

| | | | |
|------------------------------|--|---|-------------|
| A.1 | To confirm the Minutes of the 28th meeting of the Senate held on 11th December 2015 | | |
| | <p>The Minutes of 28th Meeting of the Senate held on 11th December 2015, were circulated to all members of the Senate.</p> <p>Modifications suggested by Prof. Harishankar Ramachandran for syllabus of “Micro Processors and Micro Controllers” and the corresponding Practice course (Annexure B, page 22 and 25) have been incorporated in the curriculum. No other comments were received from Senate members.</p> <p>The Senate Confirmed the Minutes of the 28th meeting.</p> | | |
| A.2 | To report the action taken on the Minutes of the 28th meeting of the Senate | | |
| | Res. No. 23 /2015 | To discuss and approve minor modifications in the revised B.Tech curriculum | Implemented |
| | Res. No. 24 /2015 | To discuss and approve the proposed course contents of 3 rd and 4 th year curriculum for B.Tech students of 2014 Batch onwards. | Implemented |
| | Res. No. 25 /2015 | To discuss and approve the proposal that the Institute to be a part of the Centralized Counseling process for admission to postgraduate programs | Initiated |
| | Res. No. 26 /2015 | To approve the proposed elective courses | Implemented |
| | Res. No. 27 /2015 | Award of Ph. D degree to Shri K. Ramachandran (PHY10D001) and issue of Provisional Certificate | Implemented |
| | <i>The Senate noted the same.</i> | | |
| A.3 | To consider the possibilities of introducing New B Tech Program in Smart Manufacturing | | |
| Res. No. 01 /2016 | <p>IIITDM Kancheepuram is offering design centric academic programs in the disciplines of computer engineering, electronics and mechanical engineering leading to B Tech, Dual Degree, and M Des programs since inception. The programs offered are well appreciated by the parents and industry.</p> <p>The recent initiatives of Govt. of India, such as ‘Make in India’, ‘Skill India’, ‘Startup India’ and ‘Stand up India’, are expected to transform the manufacturing into a hotbed of new jobs and lead to overall economic growth. Manufacturing is not only the backbone of the economy but also the muscle behind national security. Keeping this in view, a few manufacturing sectors have been identified as strategic for strengthening the national capabilities from the long-term</p> | | |

point of view.

With increasing and rapidly changing customer demand, less product life cycle and planning time, and highly competitive nature, the industries, all over the world, are forced to relook into their current organizational setup. The 21st century manufacturing facilities have ushered a new wave of manufacturing with an amalgamation of technologies from advanced robotics to fully integrated production systems. With smart manufacturing or Industry 4.0, manufacturers are moving towards a new level of interconnected and intelligent manufacturing system which incorporates the latest advances in sensors, robotics, big data, controllers, and machine learning. This allows every aspect of the plant to be constantly accessible, monitored, controlled, designed, and adapted for real-time adjustments. The greater digital interconnectedness between various parts of the supply and production chains, as well as the higher reliance on automation in these smart factories, is going to make manufacturing ultra-efficient, ultra-sophisticated, and ultra-productive.



To keep pace with the evolution of these “smart factories’ requires highly skilled and nimble engineers to manage the increasing complexity and shorter mind-to market product cycles. Future manufacturing engineers need to have basic knowledge on IT. Strong problem-solving skills can equate to the ability to autonomously adjust robots and production systems real-time. Math skills can translate into applied competencies in measurement and spatial reasoning. Technical skills have practical application in areas such as material science, and technical system operations such as fluid power electrical controls. Understanding algorithms and advanced computing can translate into the ability to develop advanced technologies such as 3D-modeling and advanced robotics. Overall, as product development and manufacturing systems become more interwoven and cycle times shorten, workers need to have higher levels of basic engineering and analytical skills in order to influence design changes as well as production efficiency.

The sophistication of today’s (and tomorrow’s) factories places greater onus on new engineers to choose their skillset, to manage and operate in an advanced manufacturing facility. And with the skills gap becoming an increasingly troublesome trend, manufacturers must act now in order to reap the benefits that smart manufacturing, alongside a smart skillset, can provide. Smart manufacturing has the potential to trigger innovation and productivity, enable and spur growth, facilitate greater worker and product safety, and improve the environmental profile of operations of the manufacturing industries. By driving efficiency throughout the manufacturing

| | |
|-----|--|
| | <p>process, smart technology helps eliminate waste: Better scheduling prevents idle machines and manpower; optimized runs shrink water and energy use; and fewer human errors divert from landfills wasted raw materials and spoiled finished product. Other ways smart technology improves the supply chain include enhancing communication to facilitate planning and helping manufacturers react to events in real time.</p> <p>There is no other point in time other than today where Smart Manufacturing is projected to produce fourth Industrial revolution and is expected to bring huge dividends to cost reduction and efficiency improvement in manufacturing. Today's products and the factory producing the products are becoming smart and connected. However, the country is facing shortages in skilled engineers to serve this segment of industry. Rather than being grouped and siloed by disciplines, the cross-referential and collaborative nature of smart manufacturing calls for multidisciplinary, outcomes-based teams organized around optimizing tasks and processes. Finding appropriately skilled employees for these teams is becoming huge challenge for manufacturing companies.</p> <p>Current manufacturing programs typically called "Production Technology" is being offered at many universities and is primarily focused on discrete manufacturing processes like machining, joining, forming and near-net shape processes. However, the skill set requirements for today's manufacturing engineers spans widely from cross-disciplinary manufacturing processes including electronics manufacturing, IT and algorithms. Recognizing this need, IIITDM Kanchepuram is planning to offer a four-year undergraduate degree program in smart manufacturing, initially. The Institute has organized many internal brain storming sessions and one with experts from Industry and Academia, outside the Institute (Annexure 'A')</p> <p>B.Tech smart manufacturing program will adopt a faceted approach to manufacturing education by giving equal importance to basic sciences & engineering courses, discrete unit manufacturing processes, automation, assembly, electronic manufacturing, virtual manufacturing and information systems technology.</p> <p>Views of the Senate:</p> <p>Chairman Senate and Dr Senthilkumaran, IIITDM, briefed about the need of the new program in manufacturing and Institute's readiness to offer the program. Members, in general, accepted the proposal and appreciated the direction. Senate also advised to structure the program and course contents to meet the objectives of 'Smart Manufacturing'. Alternate names for the program such as 'IT enabled Manufacturing, integrated manufacturing, intelligent manufacturing were also discussed. Senate also suggested to offer dual degree specializations in due course, and to offer UG program initially. The Senate also expressed that additional faculty needs to be recruited to take care of new program.</p> <p>The Senate discussed and approved the introducing of New B Tech Program in Smart Manufacturing.</p> |
| A.4 | <p>To consider the proposal of introducing one new programme in Mechanical Engineering for IIITDM Kurnool, curriculum for the offered programs and increase in intake for B.Tech of IIIT</p> |

| | |
|------------------------------|--|
| | Kurnool |
| Res. No. 02 /2016 | <p>As it was reported in 26th meeting of the senate, IIIT Kurnool is functioning in IIITDM Kancheepuram campus since last academic year as per Govt. direction. It started with B. Tech. programmes in the disciplines of “Computer Science & Engineering” and “Electronics & Communication Engineering” with intake of 25 students in each programme. Total forty-four students took admission in B. Tech for the year 2015-16.</p> <p>In the meantime, the Ministry has approved the proposal of renaming the Institute as IIITDM Kurnool and the process of registration as the Society has been initiated. The vision and mission of the Institute, IIITDM Kurnool, will be same as that of existing IIITDMs, Kancheepuram and Jabalpur. The students admitted to IIIT Kurnool in the academic session 2015 follow the IIITDM Kancheepuram curriculum for the UG and DD programs which is common.</p> <p>As IIITDM Kurnool, will have the Design and Manufacturing domain attached, it is proposed to consider the possibility of starting the four year B. Tech. programme in “Mechanical Engineering” with the intake of 40 students and increase the intake from 25 to 40 for the other two existing disciplines each. The curriculum and course contents for all the branches will be same as that of revised IIITDM Kancheepuram curriculum.</p> <p>Senate members expressed that the established specializations such as Computer Engineering, Electronics (Design and Manufacturing) and Mechanical (Design and Manufacturing) can be considered for IIITDM Kurnool also.</p> <p>The Senate discussed and approved the proposal of introducing one new programme in Mechanical Engineering (Design and Manufactrruing) for IIITDM Kurnool, curriculum for the offered programs and increase in intake for B.Tech of IIIT Kurnool</p> |
| A.5 | To discuss and approve modification in graded punishments for the act of indiscipline and malpractice by students in the Institute |
| Res. No. 03 /2016 | <p>Senate expressed in its 28th meeting that acts indiscipline and malpractices by the students should be handled strictly as these acts will ruin the system and the reputation of the institute. The senate suggested to look into the graded punishments for indiscipline acts/malpractices approved in 13th Senate meeting and reconstruct it. This matter was discussed in the meeting of Students’ Committee on Academic Affairs (SCAA). The minutes of meeting are given in Annexure ‘B’ where the modified graded punishments for various acts of malpractices/indiscipline are recommended.</p> <p>The Senate Resolved to approve the proposed graded punishments for various acts of malpractices/indiscipline by students in the Institute.</p> |

| | |
|-----------------------|--|
| Item No.06 | Award of Ph. D degree to Shri. Rajin M Linus (EDM10D002) and issue of Provisional Certificate |
| | <p>Shri. Rajin M Linus (EDM10D002) has completed all the academic requirements for the award of the Ph. D degree in Electronics Engineering stream of this Institute. Details of the scholar are given in Annexure 'C'.</p> <p>The senate approved to issue the Provisional Certificate to Shri. Rajin M Linus (EDM10D002).</p> |

Sd/-

Chairman, Senate