

INDIAN INSTITUTE OF TECHNOLOGY PALAKKAD



ANNUAL REPORT 2015-16



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Director

Indian Institute of Technology Madras  
IIT P.O., Chennai 600 036 India.

Telephone: +91 044 2257 8001

Fax: +91 044 2257 8003

Web: [www.iitm.ac.in](http://www.iitm.ac.in)

**Compiled and Edited by**

Prof. P. B. Sunil Kumar

Prof. S. Kasiviswanathan

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Mr. Soju Francis

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# Foreword

It gives me great pleasure to present the first annual report of IIT Palakkad. It is the 17th member of the IIT family to start academic activities. The people of Kerala were very happy to see that their long standing desire for an IIT was addressed in the 2014 union budget. On 20th November 2014, IIT Madras was designated as the mentor institute for the two new IITs in Kerala and Andhra Pradesh. The faculty and staff at IIT Madras, having gained experience from mentoring IIT Hyderabad, had no hesitation in taking up these assignments. A special account was set up to handle all expenses and Prof. P. B. Sunil Kumar was appointed as the Professor in charge of the new IIT.



The eagerness and enthusiasm of the state government and the people of Kerala to see an IIT established in the state were evident in the quick steps taken to identify the permanent and temporary locations for the new IIT at Palakkad. The state government had carried out a detailed study of the possible locations and a report was presented to the Site Selection Committee appointed by MHRD. SSC visited all the locations in January 2015 and submitted its report in February 2015. In March 2015 the state government issued orders accepting the SSC report and directing the district collector Palakkad to take necessary steps for acquisition of land. I would like to express my sincere gratitude to the state and district administration for the timely action.

Though IIT Palakkad is fortunate to have the beautiful premises inside Ahalia Integrated Campus, Kozhipara, as its temporary campus, with sufficient facilities clustered within a radius of 500 m to conduct academic activities and provide residences for students and faculty for two years, several internal alterations to the buildings needed to be done before the classes could start. A committee was set up at IIT Madras, with Prof. Ravindra Gettu as Chairman, to plan and carry out the necessary works to make the temporary campus ready for the academic year 2015-16. A second committee was also set up, with Prof. Gettu as the convener and Prof. Sunil Kumar as its chairman, to handle all the necessary purchases and contracts. I would like to thank all the faculty and staff involved who worked hard and made several trips to Palakkad to get the all necessary facilities ready to start the classes in August 2015.

As mentioned in this report, several present and retired faculty colleagues from IIT Madras have contributed to the setting up of IIT Palakkad. They were equally supported by the technical and administrative staff, many a time working beyond the call of duty to get things done in time. Without this overall effort it would have been impossible to get the class rooms, laboratories, hostels and sports facilities ready in the short span of a few months. IIT Palakkad is indebted to all of them for their unconditional support.

IIT Palakkad was registered as a Society on 30th December 2015. With the amendment of the Indian Institutes of Technology Act by Parliament in August 2016, it has now become a full-fledged member of the IIT family. MHRD has already sanctioned faculty and staff positions at IIT Palakkad. One round of faculty selection was held during May 2016 and eleven young faculty members have already joined the institute.

On behalf of the new Institute, I wish to thank MHRD and the Board of Governors for all the support provided.

Date : 11th Nov 2016  
Place : Chennai

**Prof. Bhaskar Ramamurthi**  
Director, IIT Madras

## Introduction:



The Indian Institutes of Technology (IITs) are established by the Government of India to make available world class technical education to advance industrial development in the country. IITs are governed by the Institutes of Technology Act, 1961, which has declared them as institutes of national importance. The first IIT was established in 1951 at Kharagpur followed by Bombay (1958), Madras (1959), Kanpur (1959) and Delhi (1961). The success of these IITs in providing high quality education and research led to the demand for establishment of more such institutions. At present there are 23 institutions incorporated under the IITs act.

An IIT in Kerala was proposed in the July, 2014 union budget. On 20th November 2014, MHRD designated IIT Madras as the mentor institute for the IIT in Kerala. The Director, IIT Madras appointed Prof. P. B. Sunil Kumar as the Professor in Charge of IIT Palakkad with effect from 1st January 2015.

On January 17th, 2015, the site selection committee appointed by MHRD identified approximately 500 acres of land, in Pudukkottai village, 8 KM from Palakkad town towards Coimbatore, close to the NH 47, as the site for the permanent campus of the new IIT. The committee also found facilities in the Ahalia integrated campus, Kozhipara, suitable for hosting the institute temporarily. The academic activities at IIT Palakkad was formally launched, with the welcome function for the first batch of B.Tech. Students, on 3rd August 2015.



On 30th December 2015 IIT Palakkad was registered as a Society, under the 1860 Malabar societies registration act XXI, with registration number PKD/CA/593/2015. The first meeting of the Board of Governors of the society was held on 12th of January 2016.

Smt. Smriti Zubin Irani, Honorable HRD minister addressed the gathering at the function through video conferencing. Shri. Kris Gopalakrishnan, Co-Founder Infosys was the chief guest. Prof. Bhaskar Ramamurti (Director, IITM), Shri V. Srinivas (Secretary, HE, GoK), Prof. David Koilpillai (IITM) and Prof. M. S. Mathews (IIT Palakkad) addressed the gathering.



## **Governance:**

### **BOARD OF GOVERNORS**

- |  |                         |
|--|-------------------------|
| <b>1. Shri. Vinay Sheel Oberoi,</b><br>Secretary, DHE, MHRD            | <b>Chairman</b>         |
| <b>2. Shri. R. Subrahmanyam,</b><br>Addl. Secretary (TE), MHRD         | <b>Member</b>           |
| <b>3. Prof. Bhaskar Ramamurthi,</b><br>Director, IIT Madras            | <b>Member</b>           |
| <b>4. Shri. B. Srinivas,</b><br>Secretary, DHE, Govt. of Kerala        | <b>Member Secretary</b> |
| <b>5. Smt. Darshana Momaya Dabral,</b><br>Jt. Sec & FA, MHRD           | <b>Member</b>           |
| <b>6. Smt. Tripti Gurha,</b><br>Director (IITs), MHRD                  | <b>Member</b>           |
| <b>7. Prof. P.B. Sunil Kumar,</b><br>Professor in-charge, IIT Palakkad | <b>Member</b>           |

### **FINANCE COMMITTEE**

- |  |                         |
|--|-------------------------|
| <b>1. Shri. Vinay Sheel Oberoi,</b><br>Secretary, DHE, MHRD Chairman   | <b>Chairman</b>         |
| <b>2. Shri. R. Subrahmanyam,</b><br>Addl. Secretary (TE), MHRD         | <b>Member</b>           |
| <b>3. Prof. Bhaskar Ramamurthi,</b><br>Director, IIT Madras            | <b>Member</b>           |
| <b>4. Smt. Darshana Momaya Dabral,</b><br>Jt. Secretary & FA, MHRD     | <b>Member</b>           |
| <b>5. Smt. Tripti Gurha,</b><br>Director (IITs), MHRD                  | <b>Member</b>           |
| <b>6. Prof. P.B. Sunil Kumar,</b><br>Professor in-charge, IIT Palakkad | <b>Member</b>           |
| <b>7. Prof. Job Kurian,</b><br>Registrar, IIT Palakkad                 | <b>Member Secretary</b> |

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## BUILDING AND WORKS COMMITTEE

1. **Prof Bhaskar Rama murthi,**  
Director, IIT Madras **Chairman**
2. **Mr. Unnikrishna Panickar,**  
Chief Engineer, CPWD, Trivandrum. **Member**
3. **Mr. Prasad Mathew,**  
Deputy Chief Engineer (Elec), KSEB, Palakkad. **Member**
4. **Prof. Ligy Philip,**  
Chairman, Engineering Unit, IIT Madras. **Member**
6. **Prof. P. B. Sunil Kumar,**  
Prof. in-Charge, IIT Palakkad. **Member**
7. **Mr. S. Ramanujam,**  
Rtd. Director, DCSEM, DAE, Mumbai. **Member**
8. **Prof. M.S. Mathews,**  
IIT Palakkad (Member Secretary). **Member**



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## ACADEMIC COUNCIL

- |   |                 |
|---|-----------------|
| <b>1. Prof. K. Ramamurthy</b><br>Dean (Academic Courses), IIT Madras                    | <b>Chairman</b> |
| <b>2. Prof. G. Ranga Rao</b><br>Dept. of Chemistry, IIT Madras                          | <b>Member</b>   |
| <b>3. Prof. M. Thamban Nair</b><br>Dept. of Mathematics, IIT Madras                     | <b>Member</b>   |
| <b>4. Prof. S. Kasiviswanathan</b><br>Dept. of Physics, IIT Madras                      | <b>Member</b>   |
| <b>5. Prof. D. Malathy</b><br>Dept. of HSS, IIT Madras                                  | <b>Member</b>   |
| <b>6. Prof. Manu Santhanam</b><br>Dept. of Civil Engineering, IIT Madras                | <b>Member</b>   |
| <b>7. Prof. P. Sreenivasa Kumar</b><br>Dept. of CSE, IIT Madras                         | <b>Member</b>   |
| <b>8. Prof. Harishankar Ramachandran</b><br>Dept. of Electrical Engineering, IIT Madras | <b>Member</b>   |
| <b>9. Prof. T. Sundararajan</b><br>Dept. of Mechanical Engineering, IIT Madras          | <b>Member</b>   |
| <b>10. Prof. K. Krishnaiah</b><br>Dept. of Chemical Engineering, IIT Madras             | <b>Member</b>   |
| <b>11. Prof. V. G. Idichandy,</b><br>Dept. of Ocean Engineering                         | <b>Member</b>   |
| <b>12. Prof. P.B. Sunil Kumar</b><br>Professor in-charge, IIT Palakkad                  | <b>Member</b>   |
| <b>13. Prof. Job Kurian</b><br>Professor IIT Palakkad                                   | <b>Member</b>   |
| <b>14. Prof. M.S. Mathews</b><br>Professor IIT Palakkad                                 | <b>Member</b>   |



## Other Committees

On 20th July 2014, IIT Madras was designated as the mentor institute for the new IIT in Kerala. Following committees were set up at IIT Madras to get the temporary campus ready for the academic year 2015-16”

### IIT Palakkad Exclusive Purchase Committee

1. Prof. P. B. Sunil Kumar	Chairman
2. Prof. Ravindra Gettu	Convenor
3. Prof. S. Kasiviwanthan	Member
4. Prof. Ranga Rao	Member
5. Prof. T S Natarajan	Member
6. Dr. K. M. Muraleedhran	Member
7. Mr. R. Esakkimuthu, Deputy Registrar, Internal Audit	Member
8. Mr. B. Nagarajan, Deputy Registrar IC & SR	Member
9. Mr. R. Sarvaharan, Assistant Registrar IC & SR	Member

### IIT Palakkad Temporary-Campus Implementation Committee

1. Prof. Ravindra Gettu	Chairman
2. Prof. Ligy Philip, Chairman EU, IITM	Member
3. Mr. K. Viswanath, Executive Engineer, Electrical, IITM	Member
4. Mr. K. Dharmaraj, Executive Engineer, Civil-projects, IITM	Member
5. Mr. M. Soundararaj, Consultant , EU, IITM	Member

## **People:**

### **ADMINISTRATION**

- |                                       |   |
|---------------------------------------|---|
| 1. Prof Bhaskar Ramamurthi            | Mentor Director                                   |
| 2. Prof. P.B. Sunil Kumar             | Professor in-charge                               |
| 3. Prof. Job Kurian                   | Professor in-charge (Administration) & Registrar  |
| 4. Prof. M.S. Mathews                 | Professor in-charge (Infrastructure)              |
| 5. Prof. S. Kasiviswanathan           | Professor in-charge (Academics & student affairs) |
| 6. Prof. V G Idichandy                | Senior Project Advisor                            |
| 7. Shri. K. Madhvan Unni, IRSS ( Rtd) | Advisor (Administration)                          |

### **Faculty**

- |                     |  |
|---------------------|--|
| 1. Prof. MS Mathews | Professor, Department of Civil Engineering, IIT Palakkad.      |
| 2. Prof. Job Kurian | Professor, Department of Mechanical Engineering, IIT Palakkad. |

### **Full Time Visiting Faculty**

- |                        |  |
|------------------------|--|
| 1. Prof. MC Valsakumar | Scientist-H (Rtd.), Outstanding Scientist, IGCAR, Kalpakkam. |
| 2. Prof. Govindankutty | Former Head, Materials Chemistry Division, IGCAR Kalpakkam.  |
| 3. Dr. Jasine Babu     |  |
| 4. Dr. Arvind Ajoy     |  |
| 5. Dr. K P Deepesh     |  |

### **Visiting Faculty from IIT Madras**

- |                           |   |
|---------------------------|---|
| 1. Prof. S Kasiviswanthan | Professor, Department of Physics.                     |
| 2. Prof. Susy Varughese   | Professor, Department of Chemical Engineering.        |
| 3. Prof. K Mangala Sundar | Professor, Department of Chemistry, IIT Madras.       |
| 4. Dr. KM Muraleedhran    | Associate Professor, Department of Chemistry.         |
| 5. Prof. V Vetrivel       | Professor, Department of Mathematics.                 |
| 6. Dr. Sarith P Sathian   | Associate Professor, Department of Applied Mechanics. |
| 7. Prof. Sundararajan     | Professor, Department of Mechanical Engineering.      |

### **Guest Faculty**

- |                               |   |
|-------------------------------|---|
| 1. Prof. KK Balasubramanian   | Former Emeritus Professor, IIT Madras.                |
| 2. Prof. Narayanan Namboodiri | Emeritus Professor, Department of Mathematics, CUSAT. |
| 3. Dr. Ajith Kumar            | National Centre for Biological Sciences, Bangalore.   |
| 4. Dr. Anand Osuri            | National Centre for Biological Sciences, Bangalore.   |
| 5. Dr. Hari Shridhar          | Centre for Ecological Society, Bangalore.             |

### **Workshop Instructor**

- |  |
|--|
| 1. Dr. G. Balaganesan , Senior Technical Officer, Central Workshop, IIT Madras |
|--|

## TEACHING ASSISTANTS

### CHEMISTRY

- |                           |                   |
|---------------------------|-------------------|
| 1. Mr. M. G. Harikrishnan | Project Associate |
| 2. Ms. M. Jiji            | Project Associate |
| 3. Mr. Reddi Ganesh       | Project Associate |
| 4. Ms. Sneha K. R.        | Project Associate |

### CIVIL ENGINEERING

- |                                |                        |
|--------------------------------|------------------------|
| 1. Mr. G. G. Sreyas            | Project Officer        |
| 2. Mr. Alex                    | Project Associate      |
| 3. Dr. V. Lakshminarasimha Rao | Senior Project Officer |

### MATHEMATICS

- |                     |                   |
|---------------------|-------------------|
| 1. Ms. Ardra T. Joy | Project Associate |
| 2. Mr. R. Sreeram   | Project Associate |

### PHYSICS

- |                          |                   |
|--------------------------|-------------------|
| 1. Ms. S. A. Meenu       | Project Associate |
| 2. Mr. C. Krishna Prasad | Project Associate |
| 3. Ms. N. S. Parvathy    | Project Associate |

## STAFF DETAILS OF IIT PALAKKAD

- |                            |                          |
|----------------------------|--------------------------|
| 1. Dr. K. P. Abdul Salam   | Senior Project Officer   |
| 2. Ms.S. Priyanka          | Project Associate        |
| 3. Mr. Soju Francis        | Project Associate        |
| 4. Mr. M. Vineesh Kumaran  | Project Associate        |
| 5. Ms. K. M. Shamila Verma | Project Associate        |
| 6. Mr. V. Anandan          | Senior Project Assistant |
| 7. Ms. V. Darsana Nair     | Senior Project Assistant |
| 8. Mr. M. Dileesh          | Senior Project Assistant |
| 9. Ms. Susama Bera         | Senior Project Assistant |
| 10. Mr. Shailesh Kumar     | Project Associate        |
| 11. Ms. P. Sureka          | Project Associate        |
| 12. Ms. Rukshana Hassen    | Project Associate        |
| 13. Mr. D. Anto Jidhin     | Project Assistant        |
| 14. Ms. N. Thenmozhi       | Senior Project Assistant |
| 15. Ms.A. Geetha           | Senior Project Assistant |
| 16. Mr. M. Daniel Jerald   | Senior Project Assistant |
| 17. Mr. W. Mafeeq          | Project Attendant        |
| 18. Mr. A. R. Aromal       | Project Attendant        |
| 19. Mr. A. Muralidharan    | Senior Project Assistant |

## **Infrastructure:**

### **Chemistry Laboratory**

The Chemistry Laboratory is a spacious and well ventilated laboratory equipped with state of the art work tables for the use of up to 40 students per batch. There are safety features such as eye wash stations at two locations inside the lab and an emergency shower just outside. The lab amenities include a fumehood for carrying out experiments with volatile reagents and a hot air oven for drying glassware and chemical precipitates. Two each of UV-VIS spectrophotometers and colorimeters have been installed. In addition, there is a portable RO water plant inside the lab for providing high purity water for carrying out experiments, and an ice flake machine for experiments at low temperatures. Electronic weighing balances, electrical conductivity meters for solutions, pH meters, and electrical hot plates have also been installed. There is a laboratory refrigerator for storing special reagents, and water baths for conducting specific experiments. Three portable melting point determinators are available for sample characterization. An ultrasonic cleaner is available for cleaning glassware, and a couple of electric Bunsen burners for heating small samples up to 900°C. Two orbital shakers for shaking reaction bottles during adsorption experiments are also installed. The Chemistry Lab is thus well equipped for training the B. Tech. students, as was shown by our experience during the January-April semester this year. The lab is run on a rigorous policy of waste minimization.



### **Computer Lab**

IIT Palakkad has a state-of-the-art Computing Centre with 60 All-In-One Dual Boot Desktops connected centrally to the File Server with LDAP authentication mechanism. The students can login from any of these machines to access their home directory and work with it. Lab machines are connected to the Internet via-high-speed link. The Lab has seating capacity of 75 students. It has two projectors for projection. The Lab is used for Computer aided design and programming classes and it is open from 8 am to mid night every day for students.



The features of the Learning Management System, moodle, have been well utilized for course content management, the conduct of on-line examinations and submission of assignments. In order to facilitate the computing and networking requirements, two high-end Servers are being used. A firewall and Squid Proxy Server are installed for access control.

The Campus, including the Hostels, is fully Wi-Fi enabled with mobility in Internet Access. Various functional units of the institute are organized into 3 separate VLANs for secure connectivity. A 1000 Mbps Internet connection from the National Knowledge Network and another 100 Mbps connection from BSNL are made available in order to meet the Internet usage requirements.

## Physics Lab

Physics laboratory is an integral part of the first year curriculum. The aim of the physics laboratory is to reinforce the concepts students have learned while simultaneously acquiring the skills and developing the confidence to carry out experiments on their own. The laboratory itself is spacious and forty students perform experiments in a session, with ample elbow room. The experiments cover three major fields: Mechanics, Optics and Electricity and Magnetism. The laboratory has several sophisticated instruments such as, digital oscilloscopes, programmable function generators, green laser diode assemblies, true rms digital meters, digital balance, etc. These instruments serve as tools for precision measurements, while the emphasis is placed on experimentation.



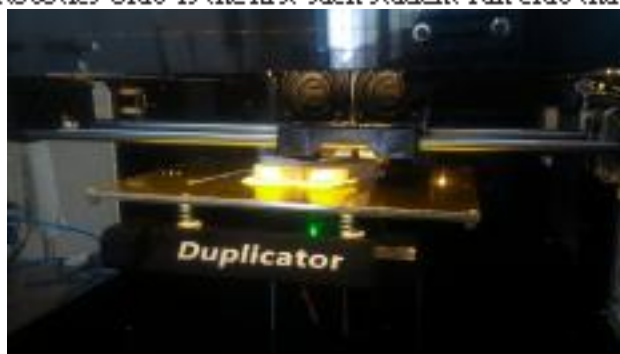
## Innovation Lab



The Innovation Lab at IIT Palakkad is a student-run hobby lab that allows students to translate their ideas into prototypes and products. Such a facility holds immense potential in pushing forward the 'Make-in-India' initiative of the Govt. of India. The heart of the Innovation Lab at IIT Palakkad is a set of table top computer controlled machining systems: a dual-head 3D printer, a CNC router, a CNC milling machine and a CNC lathe. Of these, the first two systems have been operational since August 2016, whereas efforts are currently on to procure the CNC milling machine and

lathe. The above four machines will enable the precise fabrication of prototypes in plastic, wood and soft metals such as aluminium.

An electronics testing and fabrication setup with robust power supplies, signal generators and oscilloscopes has also been operational since August 2016. Students have started organizing themselves into clubs in order to take full benefit of the Innovation Lab – the 'Robotics Club' is the first such student-run club that has been functioning at IIT Palakkad. Once the fabrication facilities at the Innovation Lab are completely set up, it is envisaged that the facility can also be made available to students in schools and colleges around IIT Palakkad, thereby acting as a force multiplier in the quest to encourage grass-roots innovation. In the long run, it is hoped that the Innovation Lab is as successful as the Center for Innovation at IIT Madras in incubating companies and nurturing entrepreneurs.



## Central Library



The Central Library, IIT Palakkad provides an enjoyable learning experience with optimum ambience for study and learning during and after normal working hours and on holidays. The library provides information/knowledge resources through a carefully developed and balanced collection of books, magazines and news papers. The Library is enabled with Wi-Fi and LAN facility for unlimited high speed internet access.

The Central Library started operating with a collection of 700 books and presently the collection has grown to 1500 books. Sufficient number of copies of textbooks and reference books are procured for the courses offered. Other

books of general interest to students, faculty and staff have also been acquired. It also has a collection of audio-visual materials such as CD-ROM, scientific kits, etc. The users of Central Library of IIT Palakkad are also registered with the National Digital Library sponsored by MHRD and coordinated by IIT Kharagpur.

The operations of the library are fully computerized by using open source library management software KOHA. The acquisition of the books are done through recommendations from the faculty members. The technical processing of the books are done by proper classification by using DDC classification system. Check-out and check-in of books are done through Smart ID cards. The users of the library are getting the facility to reserve books through online public access catalogue which helps them to save time.

The library renders services such as reference and consultation as well as updates the users with Information Alert Service like newspaper clippings and list of new arrivals in the library.

Following rooms are equipped with NKN connectivity



Auditorium with capacity of 200 students



Two 80 seater classroom



Conference room



Boardroom

## Faculty Accommodation and Guest House

Twelve double bed-room apartments and a three bed-room house have been rented inside Ahalia Campus for faculty accommodation and guest house facilities. These are within a few hundred meters from the academic block and the hostels. Faculty members taking care of administrative duties and hostels reside on the campus. The guest house is mainly used to accommodate visiting faculty from IIT Madras.



## Hostel Facility



IIT Palakkad is fully residential with separate hostels for girls and boys. The hostel buildings are within a radius of seven hundred meters of academic building. Students are provided accommodation on twin-sharing basis, and all the rooms are bath-attached. The hostels have a spacious dining hall and a well-equipped recreational place, indoor games and a fitness centre. The common space in the hostel is WiFi enabled. The other amenities provided include RO

drinking water system and a heavy-duty washing machine in each floor of the hostels. The sports facilities currently available in the hostel premises include table tennis and volleyball court. Coaches are available for football and cricket. The serene atmosphere of Ahalia campus is ideal for cross-country running.



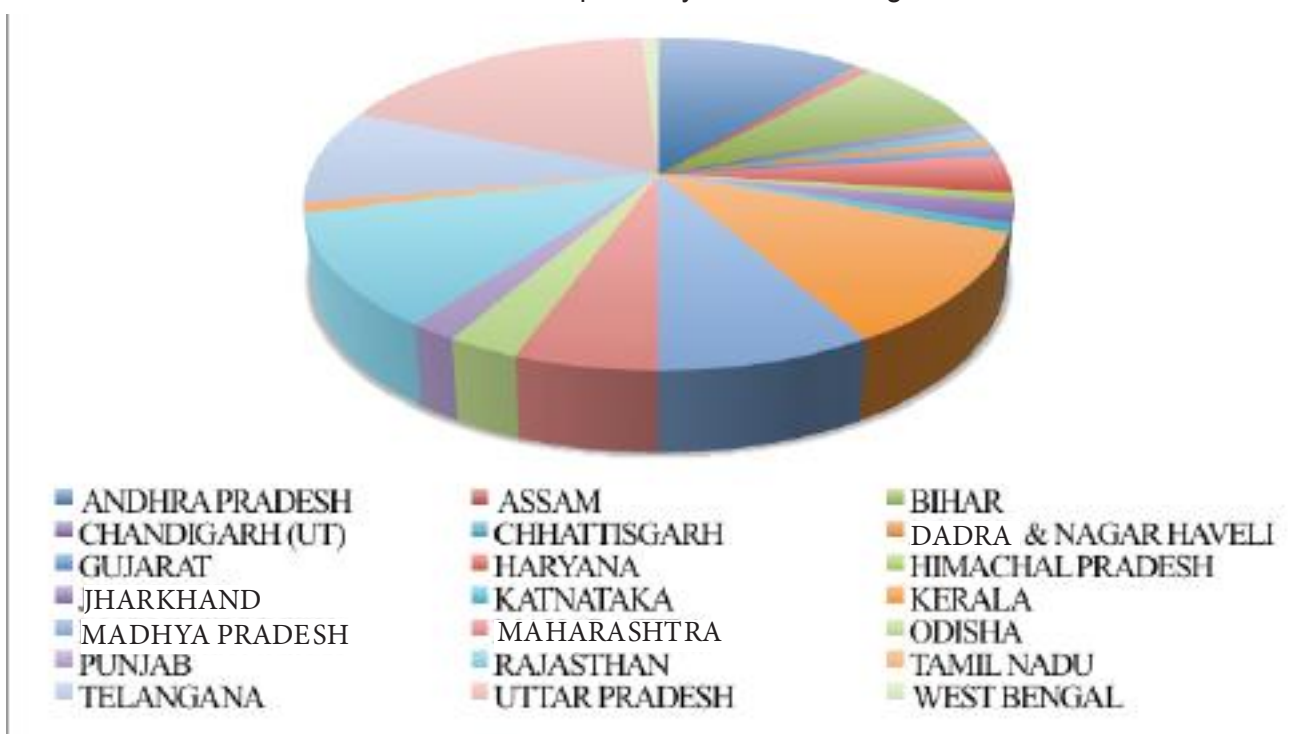
Well lit streets connect the hostels and the academic block.



## Academic activity:

### General information

IIT Palakkad offers B.Tech programme in four branches: Civil Engineering, Computer Science and Engineering, Electrical Engineering and Mechanical Engineering. The yearly student intake is 120, equally distributed in all four branches. The number of registered students in the 2015 batch is 108 with 104 boys and 4 girls. The students come from different parts of the country, providing a truly cosmopolitan and multicultural environment. The demography of admitted students, the category and branch wise distribution are shown respectively in the following chart and in Tables 1 and 2.



Category	Strength
General	51
General PwD	01
OBC-NCL	30
SC	17
ST	09
<b>Total</b>	<b>108</b>

**Table 1:** Category - wise student strength

Branch	Strength
Civil Engineering	26
Computer Science and Engineering	26
Electrical Engineering	28
Mechanical Engineering	28
<b>Total</b>	<b>108</b>

**Table 2:** Branch - wise student strength



## Curriculum

The curriculum is set by an academic council consisting of senior professors from IIT Madras and is based on the 2014 curriculum of IIT Madras. In the first year, the curriculum is common to all branches. The details are given in Tables 3 and 4.

**Table 3:** Semester I curriculum

Sl. No	Course Code	Course Title	Course Credit	Course Category
1	CS1100	Computational Engineering	4	BET
2	CY1010	Chemistry I	3	SCY
3	ID1100	Concepts in Engineering Design	3	BET
4	MA1010	Mathematics I	4	SMA
5	ME1120	Engineering Drawing	3	BES
6	PH1010	Physics I	3	SPH
7	PH1030	Physics Laboratory	2	SPH
8	WS1010	Workshop I	2	BES
<b>Total Credits</b>			<b>24</b>	

**Table 4:** Semester II curriculum

Sl. No	Course Code	Course Title	Course Credit	Course Category
1	CY1020	Chemistry II	3	SCY
2	CY1030	Chemistry Laboratory	2	SCY
3	ID1200	Ecology and Environment	2	BET
4	AM1100	Engineering Mechanics	4	BET
5	GN1100	Life Skills	2	HPF
6	MA1020	Mathematics II	4	SMA
7	PH1020	Physics II	3	SPH
8	ME1100	Thermodynamics	3	BET
9	WS1020	Workshop II	2	BES
<b>Total Credits</b>			<b>25</b>	

## Course distribution

The courses for the four - year B.Tech programme fall into five major categories: Humanities and social sciences (HSS, HPF,...), Basic sciences (SMA, SPH, SCY,...), Basic Engineering Theory / Skills (BET, BES) and Professional Major & Minor Theory and Laboratory (PMT, PML). At present, PMT and PML courses commence from third semester onwards. In order to complete the B.Tech programme successfully within four years, a student has to earn a total of 170-172 credits at the end of first eight semesters. Faculty of IIT Palakkad, visiting faculty from IIT Madras and guest faculty, who are senior retired faculty from reputed institutions, handle all the courses.

## Grading policy

IIT Palakkad has a grading policy based on continuous assessment. Grades are awarded on a 10 point scale denoted S, A, B, C, D, E and U, with E being the minimum grade to pass a subject. The respective credits are 10, 9, 8, 7, 6, 4 and 0. Academic performance at the end of the first semester is quantified by a Grade Point Average (abbreviated GPA), which is a weighted average of the grades obtained in courses that are completed successfully. From the second semester onwards, a Cumulative grade point average (CGPA, weighted average of the grades secured in all semesters) is given, in addition. At present students are given a draft transcript, which provides a summary of their performance in a semester.

## Branch Change

Students are allowed to change their branch based on their academic performance in the first semester. The change comes into effect at the end of the first year. The rules for branch change are based on the 2014 B.Tech Ordinances and Regulations of IIT Madras. One of the criteria for change of branch, apart from academic performance, is the restriction on the sanctioned strength in each branch. Table 5 provides the students strength after branch change:

Table 5: Branch - wise student strength after branch change

Branch	Strength
Civil Engineering	23
Computer Science and Engineering	33
Electrical Engineering	27
Mechanical Engineering	25
<b>Total</b>	<b>108</b>

## Remedial Courses

### English language course

The medium of instruction is in English. In order to identify the students lacking sufficient background in English language, and provide help, an English proficiency test was conducted. All students admitted to IIT Palakkad were required to take the test. English language improvement classes (Forty contact hours), after regular class hours, were arranged and 24 students with difficulty in English language were benefitted from the language course.

### Special drive for academically weak students

Interactive sessions after regular class hours were arranged for all theory courses for the academically weak students. The students were identified based on their performance in the first assessment test of the academic progress in a particular course. Well-trained teaching assistants for each course have handled the interactive sessions and about twenty students were benefitted by the special drive.

## Student welfare

### Faculty Advisors

Faculty advisors serve primarily as mentors from academic viewpoint. They provide guidance in choosing the courses of study and give general advice on the academic programme, which aid students in setting meaningful objectives to realize their educational and professional goals. A faculty member is assigned to Eighteen students for mentoring them. Periodic meetings with the students were arranged and in certain situations the faculty advisors also helped the advisees overcome minor emotional conflicts.

### Professional Counseling

A professional counseling service has been set in place, to ensure that the students receive help when they face social/emotional issues that require professional assistance. The principal motive of the service is the well - being of the students so that all students get a home-away-from-home feel during their stay at IIT Palakkad. At present, a NIMHANS trained counselor visits IIT Palakkad every week from Friday to Saturday. Apart from an office at the academic building the counselor was also provided with a room in the student hostel. Working of the counselor in proximity to the students helped create awareness among the students that receiving professional counseling is not a social stigma. Several students were benefitted through counseling, with some of them improving their academic performance.

### Health care

IIT Palakkad has access to the good health and emergency care facilities available in the Ahalia integrated campus. Whenever there is a need, referrals are made to hospitals in Palakkad and Coimbatore. In addition students are covered under a comprehensive medical insurance scheme for a nominal yearly subscription.

### Scholarships

Merit-Cum-Means scholarships, Institute free studentships and Scholarships for SC/ST students are available to the students of IIT Palakkad, as per the Government of India norms. A total of 44 students were sanctioned scholarships. This includes 27 students with MCM scholarship, 10 students with institute Freeship and 7 seven students with SC/ST scholarships. All MCM scholarship holders are exempted from paying the tuition fee, apart from being given monthly pocket allowance of Rs. 1000/- during their stay. Institute Freeship holders are exempted from paying tuition fee. SC/ST scholarship holders are exempted from paying tuition fee and basic menu charges in the hostel, apart from being given monthly pocket money of Rs. 250/-.

### Student privacy

IIT Palakkad respects the privacy of each student and strongly believes that everyone has the right to have their personal information protected. Personal details of all students are kept strictly confidential and the information is not disclosed. This helps students to be part of a single homogeneous group irrespective of their widely varying financial / social background or category. In the academic front, draft transcripts were sent to the students with a copy to their parents / guardian alone and were not displayed on institute / hostel notice boards. This has helped create a healthy academic environment.

## Student activities and events:

A variety of student-centric activities and events were organized. The primary goal of such activities is to stimulate and cultivate the intellectual and scholastic potential of every student and increase awareness of social responsibility. These activities also enabled students to spend their free time productively, improving the overall learning environment.

### NSS

NSS is part of the curriculum and it is mandatory for all students. NSS activity does not carry any academic credit but participation is compulsory. Interaction with students of nearby schools for helping them grasp fundamental principles of science, providing computer-based learning kits to the inmates of a local orphanage, blood donation by student volunteers, and landscape development and cleaning hostel premises, are the highlights of the student activities under the National Service Scheme (NSS) during 2015-16.

### School teaching

A major activity was related to helping the rural school students in higher secondary classes with lessons in physics, chemistry and mathematics; this include demonstrating simple experiments in physics and chemistry, and then explaining the fundamental principles underlying them. The school teachers gladly welcomed and supported these efforts. Teams of students under the supervision of one or more faculty members and staff, visited the Government Higher Secondary School at Kozhipara, and interacted with the students on many Saturdays. The school students are mostly wards of agricultural workers and other daily-wage earners. Sessions of classroom teaching and free discussions with students were held. The bonding between the “teachers” and those taught was spontaneous, and the enthusiasm of the school students was very genuine. A similar service was also extended to the Ahalia Public School located in the IIT campus.



### Support to orphanage

A team of students and faculty visited the orphanage in the Ahalia campus, and interacted with the children there. A personal computer loaded with educational and recreational programs was handed over to them.



### Blood donation camp

A blood donation camp was organized with the support of the Blood bank of the Palakkad district hospital. Students, faculty and staff volunteers turned up in large numbers and donated blood.

### Cleanliness campaign

Under the aegis of the NSS, the students carried out a massive cleanliness campaign in the student hostels. This included cleaning the rooms and common areas of the buildings, cleaning the hostel compound by removing wild grass and construction debris, and laying a volleyball court. Several staff and faculty members also took part in the campaign.



### Life Skills



A course on Life skills, with carrying 2 credits is mandatory, but the credits are not included for GPA / CGPA calculation. However this mandatory as per the curriculum The life skills course was organized in two modules with about three days for each module. A team from Leads College of management, Palakkad, conducted both modules. The first module was essentially a personality development module with the objective of developing inter/intra personal skills, self-confidence. It was organized at the IIT Palakkad campus. The second module, out bound training, was conducted at the Leads college premises. This involved mainly

individual and group physical activities with an aim to develop skills required for leadership and management of resources including time.

### Student Elections

As a first step towards setting up student council, student secretaries to various posts were elected through polling. A "soap box", moderated by an IIT Palakkad faculty was organized on the eve of the elections at the Auditorium. All students participated with great enthusiasm. The elected members are: General secretary, Hostel secretary, Sports Secretary, Cultural secretary and two Mess representatives.



## Extramural lectures, seminars and talks conducted:

### Extramural lectures:



**September 11, 2015:** Thought process of an entrepreneur  
Speaker: Mr. Louis George, Managing Director of Verdant Telemetry & Antenna Systems Pvt. Ltd.

**October 28, 2015:** Rhythm appreciation primer: Lecture-demonstration  
Speaker: Mridangam vidwan, Shri. T. R. Rajamani

**February 26, 2016:** Racing cars and automotive engineering  
Speaker: Mr. J. Anand, Managing Director, Jayem Automotives



### Seminars and Talks



**August 20, 2015:** "Making of the IITs"  
Speaker: Prof. R. Kalyana Krishnan, Retired Professor, Department of Computer Science and Engineering, IIT Madras.

**September 4, 2015:** "My experience as a teacher"  
Speaker: Prof. M. S. Mathews, Retired Professor, Department of Civil Engineering, IIT Madras.

**September 15, 2015:** "Wind turbines"  
Speaker: Mr. Ranjan Deshpande, Senior Manager, Learning & Development Function, Suzlon (arranged through video conferencing).



**September 16, 2015:**  
"Software design"  
Speaker: Mr. Ramaswamy Krishnan -Chittur, Senior Software Engineer, Microsoft Corporation.

**September 17, 2015:** Reaching your full potential in academics  
Speaker: Prof. David R. Koilpillai, Dean Planning, IIT Madras

**October 21, 2015:** Bio-inspired artificial intelligence  
Speaker: Prof. Shivashankar B. Nair, Department of Computer Science and Engineering, IIT Guwahati.





**January 16, 2016:** Live telecast of Prime Minister's program Start up India

**January 21, 2016:** Under water surveillance & communication : Prospects and challenges in R & D  
Speaker: Sri. S. Kedarnath Shenoy, Outstanding Scientist and Director, NPOL, Kochin.



**February 03, 2016:** The Interdisciplinary nature of technology development : A perspective from the semiconductor industry  
Speaker: Dr. Arvin d Ajoy, IIT Palakkad.



**February 12, 2016:** Engineering energy efficient engines: Solving power problems for cell phones and data centers  
Speaker: Dr. Ignatius Bezzam, Visiting Professor IIT Madras

**February 16, 2016:** Resolving atoms in our backyards: Indigenous technology in a globalized world  
Speaker: Prof. Deshdeep Sahdev, Quazar Technologies, Professor, IIT Kanpur



**February 17, 2016:** Fast integer multiplication algorithms: A perspective  
Speaker: Dr. Piyush P. Kurur, Associate Professor, IIT Kanpur

**February 19, 2016:** Light sculptured photonic materials: Fabrication and applications  
Speaker: Prof. Joby Joseph, Department of Physics, IIT Delhi



**March 3, 2016:** Discussion on gravitational waves  
Speaker: Dr. Archana Pai, School of Physics, IISER-Trivandrum

**Events – Workshops / Meets**



**September 12, 2015:** Demonstration cum discussion by CFI students members, IIT Madras



**January 23, 2016:** Workshop on FOSS and hardware hacking  
Speaker: Mr. Pramod C

**Events – Celebrations**



August 15, 2016: Independence Day celebrations



August 26, 2015: Onam celebrations

September 05, 2015: Teachers Day celebrations

October 30, 2015: Get together: Students, faculty, staff and IIT family



November 10, 2015: Diwali Day celebrations



November 11, 2015: Ramayan: A drama organized by students as part of Diwali celebrations



January 26, 2016: Republic day celebrations



## Financial Report :



प्रधान निदेशक लेखापरीक्षा (केंद्रीय) चेन्नै का कार्यालय  
लेखापरीक्षा भवन, 361, अण्णा सरो, तेयानपेट, चेन्नै - 600 018.

**OFFICE OF THE PRINCIPAL DIRECTOR OF AUDIT (CENTRAL)**

Chennai

"LEKHA PARIKSHA BHAVAN", 361, Anna Salai, Teynampet, Chennai - 600 018.

No. PDA (C)/CE/ I/ 28-53/ 2016-17/ 76

Dt.31.10.2016

To  
The Secretary to Government of India  
Ministry of Human Resource Development  
Department of Education  
Shastri Bhavan  
New Delhi -110 001

Sir,

Sub: Separate Audit Report (SAR) on the accounts of Indian Institute of Technology, Madras for the year 2015-16 - Reg.

I forward herewith the Separate Audit Report on the accounts of Indian Institute of Technology, Madras for the year 2015-16 along with the statement of accounts. The dates of presentation of the accounts with Separate Audit Report to Parliament may kindly be intimated to this office

The receipt of this letter with enclosures may kindly be acknowledged.

Yours faithfully

sd/-  
Director/ CE

End: As above

## Separate Audit Report of the Comptroller and Auditor General of India on the accounts of Indian Institute of Technology, Madras for the year ended 31 March 2016

We have audited the attached Balance Sheet of Indian Institute of Technology, Madras including the transactions of IIT Palakkad and IIT Tirupati as IITM being the mentor Institute as at 31 March 2016, the Income & Expenditure Account and Receipts & Payment Account for the year ended on that date under Section 19(2) of the Comptroller & Auditor General's (Duties, Powers & Conditions of Service) Act, 1971 read with Section 23(2) of the Institutes of Technology Act, 1961. These financial statements are the responsibility of the Institute's management. Our responsibility is to express an opinion on these financial statements based on our audit.

2. This Separate Audit Report contains the comments of the Comptroller & Auditor General of India (CAG) on the accounting statement only with regard to classification, conformity with the best accounting practices, accounting standards and disclosure norms, etc. Audit observations on financial transactions with regard to compliance with the Law, Rules & Regulations (Propriety and Regularity) and efficiency-cum-performance aspects, etc., if any, are reported through Inspection Report/CAG's Audit Reports separately.

3. We have conducted our audit in accordance with auditing standards generally accepted in India. These standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatements. An audit includes examining, on a test basis, evidences supporting the amounts and disclosure in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of financial statements. We believe that our audit provides a reasonable basis for our opinion.

4. Based on our audit, we report that:

i We have obtained all the information and explanations, which to the best of our knowledge and belief were necessary for the purpose of our audit.

ii The Balance Sheet, Income & Expenditure Account and Receipt & Payment Account dealt with by this Report has been drawn up in the format approved by Ministry of Human Resource Development.

iii In our opinion, proper books of accounts have been maintained by Indian Institute of Technology, Madras as required under Section 23(1) of the Institutes of Technology Act, 1961 in so far as it appears from our examination of such books.

iv we further report that:

### A Balance Sheet

#### Application of Funds

#### Schedule 4 - Fixed Assets - B. Intangible Assets

#### Significant accounting Policies - Schedule 23

As per the Significant Accounting Policies - Schedule 23, out of 639 applications filed for grant of Patents, 140 Patents have been granted so far.

However the expenditure, incurred for obtaining Patents were treated as revenue expenditure instead of capitalizing and accounting under 'Intangible Assets'. This practice is in contravention to the MHRD format of accounting which stipulates as follows:

"The expenditure incurred from time-to-time (application fees, legal expenses etc) for obtaining patent is temporarily capitalized and shown as part of Intangible assets in the Balance Sheet. If applications for patents are rejected, the cumulative expenditure incurred on the particular patent is written off to the Income and Expenditure Account in the year the application is rejected. The expenditure on Patents granted is written off over a life of 9 years on a conservative basis".

## B General

### 1 Schedule 24 - Contingent Liabilities and Notes to Accounts - B. Notes on Accounts - Value of Project assets as on 31.3.2016 Rs 592,04,34,615

Depreciation on value of assets acquired out of project funds has been calculated at the rate of 8% on Straight Line Method uniformly, without segregating the assets into different categories viz., Equipments, Computer peripherals, Furniture & Fixtures etc. Further, "Gross block", "depreciation Block" and "Net block" have not been worked out, which is in contravention to the MHRD format of accounting.

### 2 Scholarship D Account - Statement showing source-wise breakup details of Sponsored Fellowships and Scholarships not appended with the Financial Statements

As per MHRD Format of Financial Statement for Institutes of Higher Education/Central Autonomous Bodies, Scholarships and Sponsored Fellowships from University Grants Commission, Ministry and others (to be specified individually) have to be exhibited in the format, as shown in Schedule 3 (b) Sponsored Fellowships and Scholarships showing Opening balance as at the beginning of the year, Transaction (Receipt and Payment) during the year and Closing balance as at the end of the year. Out of the closing balance, the resultant creditor column would appear on liabilities side of the Balance sheet under Schedule-3 and the debtor column would appear on the Assets side of the Balance sheet under Schedule 8-Loans, Advances and Deposits).

However, as seen from the annual accounts of the Institute, the above mentioned method of accounting in respect of Sponsored Fellowships and Scholarships has not been followed.

## C Revision in accounts

The Accounts of the Institute were revised on the basis of audit observations. As a result of revision, the Assets and Liabilities were increased by Rs.7.97 crore and the deficit was decreased by Rs. 2.22 crore

## D Grants in aid

Out of the total grant of Rs.820.26 crore (including Plan Grant received for IIT Palakkad Rs 25 crore and IIT Tirupati Rs. 18 crore) released during the year, internal Revenue of Rs 56.08 crore and Rs 165.23 crore being the unspent grant of the previous year (totaling Rs 1041.57 crore) the Institute could utilize Rs 855.07 crore leaving a balance of Rs.186.50 crore as on 31 March 2016.

v Subject to our observations in the preceding paragraphs, we report that the Balance Sheet, Income & Expenditure Account and Receipt & Payment Account dealt with by this report are in agreement with the books of accounts.

vi In our opinion and to the best of our information and according to the explanation given to us, the said financial statements read together with the Accounting Policies and Notes on Accounts, and subject to the significant matters Stated above and other matters mentioned in Annexure to this Audit Report give a true and fair view in conformity with accounting principles generally accepted in India.

- a. In so far as it relates to the Balance Sheet, of the state of affairs of Indian Institute of Technology, Madras as at 31 March 2016, and
- b. In so far as it relates to Income & Expenditure Account of the deficit for the year ended on that date.

For and on behalf of the C&AG of India

Place Chennai  
Date:31.10.2016

sd/-  
Principal Director of Audit (Central), Chennai

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## Annexure to Audit Report

### 1. Adequacy of Internal Audit System:

Internal audit system is inadequate as it has not followed MHRD form at in respect of capitalization of Patents and Bank Reconciliation was not done properly.

### 2. Adequacy of Internal Control System:

Internal Controls were found to be inadequate. A sum of Rs. 67, 45, 822 directly credited into Bank Account in respect of "Project account" during the period from 30.9.2013 to 28.12.2015 had not been recognized as revenue and recorded in the Bank Book of Project account. The above amount is still shown as adjustment entries in the Bank Reconciliation statement for the month of March 2016.

### 3. System of Physical verification of Fixed Assets:

Physical verification of Fixed Assets has been carried out for the year 2015-16

### 4. System of Physical verification of Inventory:

Physical verification of Inventory has been carried out for the year 2015-16

### 5. Regularity in payment of statutory dues

The Institute is regular in depositing the statutory dues.

sd/-  
Director/ CE

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Indian Institute of Technology, Madras  
Grant in Aid Statement for the year 2015-16 (Based on Revised Accounts)

Name of the project for which grant received on general Grants	Rs In Crores					
	Amount of Grant brought forward from previous year	Amount of Grant received during the year 2015-16	Internal Revenue Generation	Total	Amount utilized during the year 2015-16	Amount unutilized as on 31.03.2016 carried forward to next year
Plan Grant	(10.91)	177.50		166.59	194.33	(27.74)
Non Plan Grant	1.82	240.00	50.24	292.06	218.48	(25.42)
Projects	174.32	359.76	5.33	539.41	322.56	216.85
<b>Total</b>	<b>165.23</b>	<b>777.26</b>	<b>55.57</b>	<b>998.06</b>	<b>635.37</b>	<b>162.69</b>
<b>III Palakur- Plan Grant</b>	-	25.00	0.33	25.33	10.74	14.49
<b>III Inupati- Plan Grant</b>	-	18.00	0.28	18.28	8.96	9.32
<b>Grand Total</b>	<b>165.23</b>	<b>820.26</b>	<b>56.08</b>	<b>1041.57</b>	<b>655.07</b>	<b>196.50</b>

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Deputy Registrar F &amp; A

23-09-16

## INDIAN INSTITUTE OF TECHNOLOGY - MADRAS

Receipts Payments  
Year Ending 31-03-2016

IIT Palakad Account  
State Bank of India  
Amount in Rupees

Previous Year		Current Year
	<b>Opening Balance</b>	
0.00	Bank Balance	0.00
0.00	Investments	0.00
<b>0.00</b>	<b>Total</b>	<b>0.00</b>
	<b>Receipts</b>	
0.00	Grant Received (2015-16)	25,00,00,000.00
0.00	Tuition Fee Receipt	22,73,939.00
0.00	Loan from IIT-M F' A/c	2,12,22,941.00
<b>0.00</b>	<b>Receipts Total</b>	<b>27,34,96,880.00</b>
<b>0.00</b>	<b>Grand Total</b>	<b>27,34,96,880.00</b>
	<b>Payments</b>	
0.00	Administrative Exp	3,86,875.00
0.00	Salary	87,06,360.00
0.00	Scholarship	1,48,448.00
0.00	Equipments	5,56,82,822.00
0.00	Consumables	8,69,621.00
0.00	Contingency	1,22,03,010.00
0.00	Travel	28,18,289.00
0.00	Components	1,67,858.00
0.00	Others	2,63,69,133.00
0.00	Loan to IIT-M A' A/c	1,65,31,339.00
<b>0.00</b>	<b>Total Payments</b>	<b>12,38,83,755.00</b>
	<b>Closing Balance</b>	
0.00	Bank Balance	14,96,13,125.00
<b>0.00</b>	<b>Total</b>	<b>14,96,13,125.00</b>
<b>0.00</b>	<b>Grand Total</b>	<b>27,34,96,880.00</b>



Dy.Registrar (F A)



MAHARISHI UNIVERSITY OF TECHNOLOGY PALAKKAD  
മഹാരിഷി സാങ്കേതിക വിദ്യാലയം പാലക്കാട്

**IIT PALAKKAD 2015 - 16**



# INDIAN INSTITUTE OF TECHNOLOGY PALAKKAD

