



वार्षिक प्रतिवेदन
Annual Report
2016-17

भारतीय प्रौद्योगिकी संस्थान तिरुपति
Indian Institute of Technology Tirupati



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Director's Report

It is a pleasure to present the second Annual Report of IIT Tirupati for the period 2016-17 in the role as the first Director. As IIT Tirupati entered the second year of operations, many defining events happened and major milestones were achieved during the period. Foremost, 'The Institutes of Technology (Amendment) Act, 2016' was presented by the Hon'ble HRD Minister Shri Prakash Javdekar, passed by the Parliament, and approved by the President of India according to the status of Institute of National Importance to the Institute. The Ministry of Human Resource Development acted swiftly, and completed the process of the appointment of Directors of the 3rd Generation IITs including IIT Tirupati. I had the opportunity to be involved in the setting up of IIT Tirupati from the beginning by having been appointed as the Professor in-charge on behalf of the mentor Institute, IIT Madras. My appointment as Director in January 2017



provides me a continuity in the process of developing the Institute. There are great expectations from IIT Tirupati for its development as one of the leading institutions of the country quite quickly. I hope to live up to these expectations in providing the academic and administrative leadership.

Faculty members of any academic institution form the backbone of it. During the first year of IIT Tirupati, the teaching of courses was handled with the support of guest faculty members and senior retired faculty members from IIT Madras, and some neighbouring institutions of national repute. Faculty interviews were conducted in May 2016 and nine faculty members were appointed on contract. In March 2017, the process for appointment of faculty members on permanent basis was initiated with the release of the advertisement, and interviews scheduled in May-June 2017. IIT Tirupati has been fortunate to have been guided by five senior professors from IIT Madras and IIT Kanpur who have been re-employed on superannuation, with the due permission of the Visitor. The process of appointing permanent non-teaching staff members was also initiated simultaneously. All the staff, appointed on contract basis initially and with limited infrastructure, have worked tirelessly and with great zeal to bring the Institute to the present level.

The Institute has decided to start postgraduate programmes from the academic year 2017-18 with students to be admitted to MS (by research) and PhD programmes. The process for admitting students to these programmes was initiated.

IIT Tirupati continued to have the highest proportion of female students among all IITs, with 20 female students joining the B.Tech program in August 2016 out of 116 students admitted to the B.Tech programme. The student activities expanded with the students forming a number of special interest clubs. In March 2016 the students conducted the first Tech Festival at the Institute with active participation of the students from various colleges in and around Tirupati. The students of IIT Tirupati participated in the Inter-IIT Sports Meet for the first time in December 2016.

While the academic building hired on the campus of Krishna Teja Institutions served us adequately during the first year of operations, it was found inadequate in the subsequent years for setting up the engineering laboratories for the various courses. Similarly, the hostel facilities had to be created to accommodate the increased strength with the joining of the second batch students. We were fortunate to find and rent out two apartment buildings to house students in close proximity to the Academic Building. To provide dining facilities for the students, a kitchen cum dining facility was constructed adjoining the Academic Building in a record period of 45 days using Pre-Engineered Building (PEB) Technology. To meet the immediate requirements of establishing laboratories, and residential facilities, it was decided that essential facilities including two laboratory buildings, hostels for accommodating 600 students, four apartments for essential staff, and sports facilities will be created on the permanent campus site using fast and sustainable construction technologies like PEB technology, Glass Fiber Reinforced Gypsum (GFRG) technology. The design of the transit campus buildings was completed, and the execution of construction was entrusted to CPWD.

For setting up the campuses of six new IITs, the MHRD requested the mentor Institutes to prepare the Detailed Project Reports (DPR). IIT Tirupati was the coordinating Institute for the preparation of the DPRs with active participation from representatives from the four mentor institutes – IIT Bombay, IIT Delhi, IIT Hyderabad and IIT Madras. The exercise was completed successfully, and the DPRs were submitted to the Ministry of Finance for approval of the budgets.

The guidance provided by the Mentor Director, Prof. Bhaskar Ramamurthi, has been instrumental in laying a strong foundation to the start of the Institute. The faculty and staff members of IIT Madras have been ever willing and dedicated time in supporting the setting up of the Institute by teaching courses, helping in faculty and staff recruitment process, administrative support, and guidance in setting up the various systems.

On behalf of all the members of IIT Tirupati family, I wish to thank the members of the Board of Governors and staff of the Technical Section of the MHRD for their guidance and continued support. I extend special thanks to the Hon'ble HRD Minister Shri Prakash Javadekar ji for visiting our Institute, interacting with the faculty members, and assuring his full support.

Prof. K. N. Satyanarayana

Director

1

Introduction

Indian Institute of Technology (IIT) Tirupati is situated in the holy temple town of Tirupati in the state of Andhra Pradesh. It was started in 2015 by the Government of India along with five other new IITs at Palakkad, Jammu, Bhilai, Goa, and Dharwad increasing the count of IITs to 23 spread across the country from Jammu to Palakkad and from Mumbai to Guwahati. Our mission is to impart high class technical education to the bright students admitted to our Institute through a prestigious national level common entrance examination (JEE-Advanced).

Indian Institute of Technology (IIT) Tirupati is the first among the IITs announced in 2014 to have its foundation stone laid on 28 March 2015. The Institute started functioning with the support of its mentoring Institute, IIT Madras, from the academic year 2015–16. The academic programme was launched in August 2015 by admitting students to the B.Tech programme in four disciplines of Engineering.

As it is natural to any new institute, IIT Tirupati is also facing many challenges in terms of student housing, laboratory and workshop space, faculty office space, establishment of state-of-the-art laboratories for its students etc. However, at the same time, the Institute is keenly involved in developing the necessary infrastructure at both temporary campus and permanent site location. The transit campus is fast coming up in one corner of the permanent campus site and would be operational by the next academic year (2018). The



Bhoomi Pooja at the start of construction of transit campus

process for appointment of consultant for preparing the master plan, architectural and engineering design of the permanent campus has been initiated. It is expected that within a few years the Institute would be able to put in place excellent infrastructures required to house a strong student community and corresponding world class faculty, state-of-the-art laboratories etc. on the permanent campus.

Milestones attained during the year 2016-17

Some significant events in the history of IIT Tirupati occurred during the year 2016-17. A few are listed below:

- IIT Tirupati organised an international conference titled “Sustainable Energy Technologies for Smart & Clean Cities (SETS & CC-2016)” during 27 to 29 July 2016.
- The second pioneer batch admitted in the Institute and Orientation program was held on August 1, 2016
- Prof. M. S. Ananth, Former Director, IIT Madras inaugurated the Institute Dinning Hall on September 6, 2016. This Dinning Hall was constructed in record time of 45 days using fast track construction technologies.
- Hon'ble HRD Minister Shri Prakesh Javdekar visited IIT Tirupati on September 12, 2016.
- Shri R. Subramanian, IAS, Additional Secretary, MHRD visited IIT Tirupati campus on December 24, 2016.
- Prof. K. N. Satyanarayana took charge as the founder Director of IIT Tirupati on January 18, 2017.
- Finalised the design and initiated the construction process of transit campus on the permanent campus site.
- The first student initiated technical fest ANFANG was organised.

A few snapshots of these momentous events are shared here.

This report summarises the progress of the Institute and the events held during the year 2016-17.



Hon'ble HRD Minister Shri Prakesh Javdekar at IIT Tirupati



Prof. K. N. Satyanarayana being welcomed by the faculty and staff members on assuming charge as Director



Prof. M.S. Ananth, Former Director, IIT Madras inaugurating the Institute Dinning Hall

2.

Organisation

IIT Tirupati launched its Academic programme with the support of its mentor Institute, IIT Madras, on August 5, 2015 from a temporary campus situated on Tirupati – Renigunta Road by admitting students to B. Tech Programmes in Civil Engineering, Computer Science & Engineering, Electrical Engineering, and Mechanical Engineering with an intake of 30 students in each discipline.

Consequent upon the approval accorded to 'The Institutes of Technology (Amendment) Act, 2016 of Parliament' by the President of India on August 09, 2016 and its subsequent publication in The Gazette of India, Extraordinary, Part-II on August 10, 2016 Indian Institute of Technology Tirupati was accorded the status of Institute of National Importance.



Bill being presented by
Hon'ble HRD Minister
Shri Prakash Javdekar in
the Parliament

The Institute was mentored by IIT Madras with Prof. Bhaskar Ramamurthi being the Mentor Director of IIT Tirupati from the inception of the Institute until Prof. K. N. Satyanarayana took charge as its first Director on January 18, 2017. This chapter of the Annual Report details the organizational structure of the Institute during the year 2016-17.

2.1 Governance

Board of Governors

Chairman	Shri Vinay Sheel Oberoi , IAS (Till February 28, 2017) Secretary, Department of Higher Education, MHRD
	Shri K. K. Sharma , IAS (From March 01, 2017 till date) Secretary, Department of Higher Education, MHRD
Members	Shri R. Subrahmanyam , IAS, Additional Secretary (TE), MHRD
	Prof. Bhaskar Ramamurthi , Director, IIT Madras
	Smt Darshana Momaya Dabral , Jt. Sec & FA, MHRD
	Smt Tripti Gurha , Director (IITs), MHRD
	Prof. K. N. Satyanarayana , Director, IIT Tirupati
Member Secretary	Smt Sumita Dawra (Till January 21, 2017) Secretary, Department of Higher Education, Govt. of A.P.
	Shri Aditya Nath Das (From January 22, 2017 till date) Special Chief Secretary, Department of Higher Education, Govt. of A.P.

Finance Committee

Chairman	Chairman, BoG
Members	Director, IIT Tirupati
	Bureau Head, Technical Education, MHRD or his/her representative
	Joint Secretary & FA, MHRD or his/her representative
	Member Secretary, Registrar

Senate

Chairman	Director, IIT Tirupati
Secretary	Registrar, IIT Tirupati
Members	Prof. K. Krishnaiah , Dept. of Mechanical Engineering, IIT Tirupati
	Prof. N. N. Kishore , Dept. of Mechanical Engineering, IIT Tirupati
	Prof. P. C. Deshmukh , Dept. of Physics, IIT Tirupati
	Prof. V. Raghavendra , Dept. of Mathematics, IIT Tirupati

Members

Prof. G. Venkataratnam, Dept. of Mechanical Engineering, IIT Madras

Prof. C. Vijayan, Dept. of Physics, IIT Madras

Prof. A. Raghuramaraju, Dept. of Philosophy, University of Hyderabad

Dr. N. Venkaiah, Associate Professor, Mechanical Engineering, IIT Tirupati

Dr. Subramanyam Gorthi, Assistant Professor, Electrical Engineering, IIT Tirupati

Dr. Sk Subidh Ali, Assistant Professor, Computer Science and Engineering, IIT Tirupati

Dr. M. Nithyadharan, Assistant Professor, Civil Engineering, IIT Tirupati

Dr. Durga Prasad Challa, Assistant Professor, Mathematics, IIT Tirupati

Dr. Prasanna V. Sampath, Assistant Professor, Civil Engineering, IIT Tirupati

Dr. Sai Baba, Deputy Librarian, IIT Tirupati

Building and Works Committee**Chairman**

Director, IIT Tirupati

Members

Chief Engineer, CPWD, Vijayawada

Chief Engineer, APSPDCL, Tirupati

Chairman, Engineering Unit, IIT Madras

Mr. S. Ramanujam, Rtd. Director, DCSEM, DAE, Mumbai

Non Member Secretary

Sr. Project Advisor (Construction), IIT Tirupati

2.2 Faculty Profile

Senior faculty members currently working/recently retired from IIT Madras are engaged in instructing B.Tech students at IIT Tirupati. Also, five senior Professors recently retired from IIT Kanpur and IIT Madras have been re-employed with the approval of the Visitor to serve IIT Tirupati. In addition to this, one round of faculty selection (On Contract) was initiated by the Mentor Director of IIT Tirupati.

Faculty Selection (On Contract)

Faculty recruitment at the level of Assistant Professor/Associate Professor for the various disciplines was advertised vide Advertisement No. IITTP/RMT-FO1/2016 dated 10.03.2016. In accordance with the Statutes and with the approval of the Mentor Director, the Selection Committees constituted met and the interviews were held between 9th May and 25th May 2016. A total of 17 candidates were recommended by the Selection Committee for the appointment of which seven faculty members at Assistant Professor level and one at Associate Professor level joined the Institute on Contract. Further, two faculty members joined the Institute as visiting faculty.

A discipline-wise detailed list of faculty members engaged in teaching the UG courses at IIT Tirupati is as follows:

Chemistry

Guest Faculty Members



Dr. K. K. Balasubramanian
Retired Professor
IIT Madras



Dr. K. Mangala Sunder
Professor
IIT Madras



Dr. G. Ranga Rao
Professor
IIT Madras



Dr. M. N. S. Rao
Retired Professor
IIT Madras

Civil Engineering

Faculty Members



Dr. M. Nithyadharan
Assistant Professor



Dr. Prasanna V Sampath
Assistant Professor

Guest Faculty Members



Dr. Radhakrishna G. Pillai
Assistant Professor
IIT Madras



Dr. Kalaiselvi
Professor
Rajalakshmi Engineering College



Dr. R. G. Robinson
Professor
IIT Madras



Dr. Vidya Bhushan Maji
Assistant Professor
IIT Madras



Dr. J. Karthekeyan
Professor
S. V. University Engineering College

Computer Science and Engineering

Faculty Member



Dr. Sk Subidh Ali
Assistant Professor

Guest Faculty Members



Dr. N. S. Narayanaswamy
Professor
IIT Madras



Dr. P. Sreenivasa Kumar
Professor
IIT Madras



Dr. C. Pandu Rangan
Professor
IIT Madras



Dr. W. I. Suresh Kumar
Project Officer
IIT Madras



Dr. C. S. Rahul
Project Officer
IIT Madras



Dr. Sridhar Chimalakonda
Visiting Faculty
IIIT - Sri City

Electrical Engineering

Faculty Members



Dr. Subrahmanyam Gorthi
Assistant Professor



Dr. Saikiran Oruganti
Assistant Professor



Dr. Sai Krishna P. S.
Visiting Faculty

Guest Faculty Members



Dr. K. M. M. Prabhu
Retired Professor
IIT Madras



Dr. R. Sundar
Professor & Dean
Rajalakshmi Engineering
College

Humanities and Social Sciences

Guest Faculty Members



Dr. Devaki Reddy
Professor
IIT Madras



Dr. Vedaparayana
Professor Emeritus
S. V. University



Dr. Prema Rajagopalan
Associate Professor
IIT Madras



Dr. Sabuj Kumar Mandal
Assistant Professor
IIT Madras



Dr. Arniker Hamsa
German Faculty

Mathematics

Faculty Members



Dr. V. Raghavendra
Professor



Dr. Durga Prasad Challa
Assistant Professor



Dr. S. Rajesh
Visiting Faculty

Guest Faculty Members



Dr. G. Ravindran
Associate Professor
ISI Chennai



Dr. S. G. Kamath
Retired Professor
IIT Madras



Dr. R. Usha
Professor
IIT Madras

Mechanical Engineering

Faculty Members



Dr. N. N. Kishore
Professor



Dr. K. Krishnaiah
Professor



Dr. N. Venkaiah
Associate Professor



Dr. Madan Mohan Avulapati
Assistant Professor

Mechanical Engineering

Guest Faculty Members



Dr. K. L. Narayana
Formerly Professor & Principal
S. V. University College of Engg



Dr. Prasad Patnaik B. S. V.
Professor
IIT Madras



Dr. Manoj Pandey
Assistant Professor
IIT Madras



Dr. Dhiman Chatterjee
Associate Professor
IIT Madras



Dr. S. P. Das
Assistant Professor
IIT Madras



Dr. G. Venkatarathnam
Professor
IIT Madras



Dr. V. Raghavan
Associate Professor
IIT Madras

Physics

Faculty Members



Dr. T. S. Natarajan
Professor



Dr. P. C. Deshmukh
Professor

Life Sciences

Guest Faculty Members



Dr. Mousumi Banerjee
Life Sciences



Dr. B. S. Murty
Professor
IIT Madras



Dr. Jayasree Venkatesan
Managing Trustee
Care Earth Trust

Ecology and Environment

2.3 Academic and Non-Academic Staff

Academic staff

IIT Tirupati has engaged the following staff members to assist the faculty members in regular course work, and to ensure the conduct of experiments in laboratories effectively. A department-wise list of the Academic staff is given below:

Chemistry



Dr. G. Subramanian
Project Officer



Dr. M. Jagadish
Senior Project Officer

Computer Science



Mrs. J. Suja
Project Officer

Electrical Engineering



Mr. P. Prabhakar Rao
Senior Project Advisor



Mrs. M. Anitha
Project Associate

Physics



Dr. P. Mohanapriya
Senior Project Officer



**Mr. Voma Uday
Kumar**
Project Officer

Mechanical Engg.



**Mr. B. Ramesh
Kumar**
Senior Project Officer

Workshop



Mr. A. Rameshkrishnan
Project Officer

Mathematics



Mr. M. Radhakrishnan
Project Officer

Non-Academic Staff

Recently retired staff members from ISRO and IIT Madras were appointed at IIT Tirupati on contract basis. In addition, some staff members were also recruited on ad hoc basis to support smooth running of the Institute. The following is a department-wise list of all the non-academic staff members at IIT Tirupati during 2016-17:

Administration



Mr. V. Adinarayana
Project Advisor



Mrs. Madhavi Lata
Junior Assistant



Ms. S. Ezhilarasi
Project Associate



Mr. P. Midhun Kumar
Project Associate



**Mr. Srinivasa
Charyulu. Ch**
Senior Project Assistant

Accounts



Mr. T. Siva Kumar
Project Advisor



Mr. Y. Vijay
Senior Project Assistant

Hostels



Mr. K. S. Janakiraman
Senior Project Assistant

Computer Center



Mr. S. L. Pradeep Valan
Senior Project Officer



Mr. T. T. Manigandan
Project Officer



Mr. T. Senthil
Project Officer



Mrs. Devi Prashanthi
Project Officer

Engineering Unit



Mr. P. P. Chowdary
Senior Project Advisor



Mr. G. Narayanan
Project Associate



Mr. Senthamil Selvan
Project Officer



Ms. K. Poornasri
Project Associate

Library



Dr. B. Saibaba
Deputy Librarian



**Mr. P. Chandra
Siva Kumar**
Project Associate



Mr. V. R. Lokanarsh
Senior Project Assistant

Purchase



Mr. Nagaraj. N.E
Project Advisor



Mr. C. Madurai Muthu
Senior Project Associate

Faculty and Staff Recruitment (Regular)

With the due approval of the Ministry of Human Resource Development and Board of Governors, vacancies against the total sanctioned strength of 45 faculty and 20 non-teaching positions were advertised in the month of February 2017. The Institute received a very good response from the candidates across the world interested in applying for the faculty positions, and also, a large number of applications were received against the vacancies for staff recruitment. The interviews for the appointment of faculty members and selection tests for staff members were scheduled in the months of May and June 2017.

Academic Programmes

During the academic year 2016-17, IIT Tirupati offered Bachelor of Technology (B. Tech) programme in the following streams:

Civil Engineering	Computer Science & Engineering	Electrical Engineering	Mechanical Engineering
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Total number of sanctioned strength for B.Tech admission is 120 seats (30 in each branch). Master of Science by research (MS) programme in engineering streams is being started from the academic year 2016-17, and Ph. D programme in all the disciplines is to be started from January 2018.

3.1 Students Statistics

In the academic year 2016-17, 115 regular students and one student under preparatory course joined the Institute against 120 sanctioned seats. Out of the total 116 students admitted, 96 were boys and 20 were girls. IIT Tirupati proudly claims to have the highest percentage (17.1%) of girl students registered with the Institute among all the IITs in the country. The break-up of the students admitted is summarised year wise in the table below:

Table 3.1: Details of the students admitted in the academic year 2015-16 and 2016-17

Year	General		OBC		SC		ST		Total
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	
2015	44	7	28	4	11	6	7	2	109*
2016	47	9	25	8	16	2	8	1	116**

* including 2 preparatory course students

** including 1 preparatory course student

Financial Assistance available to B. Tech Students

The scholarships available to the students admitted to the B.Tech Programme in the Institute include Institute Merit-cum-Means (MCM) Scholarship, SC/ST Scholarship, and Institute Free Studentship as per Government of India norms. A table is given below for reference:

Table 3.2: Financial Assistance to B. Tech Students

Sl. No	Type of Scholarship	Details of Scholarship	No. of Students	
			2015	2016
1.	The Institute Merit-cum-Means scholarship for students whose parents' income is less than Rs 4.5 lakhs per annum	<ul style="list-style-type: none"> Exempted payment of tuition fee Rs.1000/- per month 	26	30
2.	The Institute Scholarship for students whose parents income is less than Rs. 4.5 lakhs per annum	<ul style="list-style-type: none"> Exempted payment of tuition fee 	06	11
3.	SC/ST Scholarship	<ul style="list-style-type: none"> Rebate in mess charges up to Rs.8000/- per semester Free lodging Rs. 250/- per month pocket allowance 	08	13

4

Academic Infrastructure

IIT Tirupati has created the necessary infrastructure including classrooms, laboratories and central library on its temporary campus to meet the expectations and requirements of the students. IIT Tirupati, envisaging the future needs of the students, was focused from very beginning in establishing laboratories and equipping them with all the equipment required for conducting the practical classes for B. Tech students. The Institute has two well established laboratories for basic sciences, one workshop, one computer laboratory and two engineering laboratories to conduct the practical sessions. This section of the report provides a glimpse of the central facilities and laboratories established in the Institute.

4.1 Classrooms

Eight 60-seater classrooms and one 120-seater classroom were established, and the necessary furniture was installed. All the classrooms are equipped with desktop computers with Internet access, projectors, screens and audio systems. The classrooms are appropriately treated for the improved acoustics. Also, a 120-seater electronic virtual classroom has been set up with video conferencing facilities with a 1 Gbps bandwidth connection to the National Knowledge Network (NKN). The virtual classroom is also being effectively used for the purpose of holding interactive classes, and invited talks by speakers from all across the world.

4.2 Computing & Network Facilities

Computer Laboratory

A Computer Laboratory has been set up in the Institute to enable the students to perform software-based experiments and programming. The Laboratory is equipped with 60 state-of-the-art all-in-one desktop systems, two short view projectors, and audio systems.



A view of Computer Laboratory



A view of Computer Laboratory

The Institute owns two blade servers to host Institute website, LDAP authentication and Moodle open source application for academic purposes. The details of the servers are listed below:

- **IBM Server**

Inbuilt storage of 09 TB along with 128 GB RAM

- **Lenovo blade server**

With 600 GB inbuilt storage along with 64 GB RAM

Software Available

The Institute has procured a wide range of software for general, academic and research purposes. The software available at the Institute are given category wise below:

General use

- Kaspersky Antivirus

- Microsoft Office 2016

Engineering and Science

- Autocad 2016 (EDU) (Unlimited)

- Scube/Mnova

- MATLAB2016B (Unlimited)

- Creo s/w

- ORCAD Schematic Capture and PSPICE

- COMSOL s/w

- VIVADO s/w

- ORCAD PCB and auto routing s/w

- Ground water modeling system (GMS)

- SIMULIA ABAQUS SOFTWARE

- Chemdraw Professional 15.1

- Pspice

Internet Facilities

The Institute has a dedicated high speed leased internet with Wi-Fi connectivity. IIT Tirupati is fully networked academic campus as it provides Wi-Fi from the academic building to the guest house, boys' and girls' hostels situated at a distance of around 10 to 12 Kms by point-to-point RF transceivers with more than 100 mbps speed.

4.3 Science Laboratories

For the undergraduate students of the first year, Physics and Chemistry Laboratories with state-of-the-art facilities have been developed on the temporary campus. This section provides a detailed view of the science laboratories on the campus.

Chemistry Laboratory

The Chemistry Laboratory experiments are designed to expose students to diverse fields of engineering and sciences. The experiments, which are designed to demonstrate the Chemistry principles through the themes that the students can relate to the happenings in day to day life, are listed below:

- **Water Quality** : Hardness of samples drawn from the neighbourhood
- **Pharmacy** : Aspirin (making a medicine)
- **Natural Product** : Tea leaves (extraction of caffeine from different brands of tea available in the market)
- **Food World** : Citrus fruits (acidity of different fruits)
- **Material World** : Brass (copper content)



A view of Chemistry Laboratory

Equipment in the Chemistry Laboratory:

- Bench Top Conductivity Meter; Model: Lmcm-20
- Bench Top pH Meter ; Model: Lmph-10
- Distilled Water Plant-4l Capacity
- Digital Colorimeter-Systronics
- Hot Plate-8 Inch-Dia
- Melting Point Apparatus
- Water Bath - 6 Holes
- Ice Flake Machine-Elanpro
- Magnetic Stirrer With Hot Plate (1l Capacity)
- Precision Gold Balance (Wensar)
- Analytical Balance (Sartorius)
- Rotary Vacuum Pump-300lpm
- UV-Cabinet-With UV Filter
- Heat Gun, Bosch
- Hot Air Oven-Binder (Redline Series)
- Ice Flaker 100 Kg
- Oil Free Portable Vacuum Pump-Super Fit
- Weighing Scale-Analytical Balance

Physics Laboratory

The Physics Laboratory is one of those laboratories which were started with the inception of the Institute. The Laboratory includes the state-of-the-art facilities to conduct nearly 10 experiments at UG level, and it also has sufficient equipment to cater to the needs for conducting research in the field.



A view of Physics Laboratory

Equipment present in the Physics Laboratory:

- Compound pendulum with accessories (five sets)
- Ultrasonic interferometer (five sets)
- Experimental setup for obtaining Stefan's constant (five sets)
- Newton rings experiment (six sets)
- Spectrometer with diffraction grating (six sets)
- Mapping of equipotential lines with electrode configuration (five sets)
- Digital oscilloscope (six sets)

- Hall effect apparatus with accessories (five sets)
- Planck's constant using LEDs (five sets)
- Simulation Laboratory using MATLAB (10 sets)
- Forbe's method apparatus
- Linear air track with digital timer (one)
- Timing car + plane ramp + accessories + inclined plane accessory + curved ramp (one)
- Four-probe method of measurement of conductivity (four sets)
- Strain gauge for stress/strain measurements (four sets)

Electro Spinning Instrument (ESPIN NANO)

The Electro Spinning Apparatus is one of the key instruments of the Physics Laboratory, which is capable of producing nanofibers of polymers & metal oxides. The nanofibrous membrane produced from the instrument is applicable in diverse fields like infiltration, tissue engineering, drug delivery system, catalysis, dye-sensitised solar cells, battery separators etc. Prof. T. S. Natarajan, faculty in Physics, IIT Tirupati who developed this national award winning Electro spinning Instrument (while in service at IIT Madras) is actively involved in research on nanofibres at IIT Tirupati.



A student conducting experiment in Electro spinning Apparatus

4.4 Engineering Laboratories

Faculty members of the different streams of Engineering at IIT Tirupati are keenly involved in developing Laboratory facilities for their respective disciplines. Details of the laboratories developed and being developed during the year 2016-17 are hereunder:

Electrical Laboratory

IIT Tirupati has developed an integrated Electronics Laboratory for offering hardware and software laboratory courses for both Electrical and Computer Science & Engineering students starting from 3rd semester. The Institute offers Electronics Laboratory for all the four branches in the 1st year as a part of workshop practice.

The Institute has procured FPGA boards, which can be used for both basic B.Tech Laboratory introductory courses as well as advanced VLSI design courses and projects. The Zynq-Zybo 7000 series board has on-chip (SoC) Dual-core ARM Cortex-A9 processor with Xilinx 7 series and FPGA has on-board memory and both Audio and Video I/O's and CODEC's. With on-board high bandwidth peripheral controllers such as 1G Ethernet, USB 2.0, SDIO, it can be used for developing audio and video processing algorithms.



A view of Electrical Laboratory

The OrCAD schematic capture and PSpice tools are very helpful in analysing transistor and OpAmp amplifiers characteristics, DC analysis, AC analysis and transient analysis of any circuit (either passive or active). The transistor bias point fixing is useful for optimal performance. PSpice software is a powerful tool as it enables the students to simulate the whole circuit either fully analog or fully digital or mixed type, and perform Monte Carlo analysis, determining the performance of the same at extreme temperatures and voltages. This tool can be used for research too. Plans are underway to set-up an Electrical Machines Laboratory for the 3rd year B.Tech students.

Equipment present at the Electrical Laboratory:

- Regulated DC Power Supply (4-in-one) (LQ6324T)
- Arbitrary Function Generator (AFG 1022)
- Digital Oscilloscope (TBS 1102B-EDU) 100MHz
- Digital Oscilloscope (TBS 1202B-EDU) 200 MHz
- Digital Multimeter (SM7023)

- Xilinx FPGA Board ZYNQ-ZYBO
- VIVADO software
- ORCAD Schematic Capture and PSPICE
- ORCAD PCB and auto routing software
- Desktop PCs with i5 processor HP LV2011

Surveying Laboratory



Students involved in surveying

A wide range of equipment was procured for the Surveying Laboratory. This included relatively simple equipment like Prismatic Compasses, Vernier Theodolites, Dumpy Levels, Plane Tables and associated accessories like Ranging Rods, Cross Staffs, Arrows, Pegs etc. More sophisticated equipment, such as Auto Levels, Hand-held GPS devices, and Total Station (5" and 1" accuracy) were also procured. Civil Engineering students were trained to use all the necessary equipment in order to learn the fundamentals of surveying.

The equipment related to Geotechnical Engineering was purchased for the class room demo; a list of the same is given below:

- Liquid Limit Device with counter and one casagrande grooving tool
- Sand Pouring Cylinder Apparatus, Small
- Rammer 4.9 kg x 450mm controlled fall
- Compaction Test Apparatus, manual - Light Compaction
- Core cutter

Strength of Materials and Fluid Mechanics Laboratory

To setup the state-of-the-art Laboratory facility for both Civil and Mechanical Engineering students, a tender was floated and the vendors were identified. The mechanics of solids and fluid mechanics Laboratory includes total 16 and 9 experimental setups respectively. The purchase order of worth Rs. 1.4 crores has been issued to the concerned vendors. A purchase order was also released for MTS make fatigue rated servo hydraulic UTM of 100kN capacity worth Rs. 1 Crore. Equipment is expected to be delivered to IIT Tirupati on or before December 2017.

Workshop

In the first semester, workshop training sessions for all the branches of engineering were held in the workshop facilities available at Sri Venkateswara University, Tirupati. The second semester workshop sessions were conducted at IIT Tirupati by procuring and installing the necessary equipment, including pneumatics and hydraulics training kits, a plastic injection moulding machine and FRP fabrication facilities on campus. Basic Electrical and Electronics Laboratory, and Instrumentation and Communication Laboratory were set up for workshop practice.



Students being trained in the Workshop

Equipment at the Workshop:

- Manual Injection moulding M/c
- Air compressor
- Air Dyer
- Pneumatic training kit
- Electro- Pneumatic training kit
- Hydraulic training kit
- Welding Simulator
- Switch Module

- Lamp Module
- Tube light module
- MCB & ELCB Module
- Conductor module
- OLR Module
- Push button Module
- Timer Module
- MCB Module
- ESAB- 400 Amps Arc Welding Transformer

4.5 Central Library

The Central Library of the Institute was established in the year 2015 with a mission to support and provide physical and intellectual access to information consistent with the present and the anticipated educational and research needs of the Institute. In accordance with the objectives of the Institute, the Library aims to develop a comprehensive collection of resources including e-resources useful for the faculty and students.

The Central Library is in fast growing stage. In a short span of time, the Library has acquired about 3000 text and reference books on Engineering, Sciences, and Humanities & Social Sciences. The Library has also subscribed and provides access to 30 popular magazines and journals. The Library is constantly in a process of increasing its collection of learning resources with an emphasis on e-resources.

This Library is equipped with modern technology of library automation system using KOHA open source integrated library software with Online Public Access Catalogue (OPAC).

The Library remains open from 8.30 AM to 09.00 PM, all seven days throughout the year except national holidays.

total collection of intellectual assets of the Library as on 31st March, 2017 is as follows:

• Books	3000	• CD-ROMS	50
• Magazines & Journals	30	• E-Journals	16
• Newspapers	10		

During the year 2016-17, following e-resources were procured:

Full Text Databases

- ACM Digital Library
- ASCE Journal Collection
- ASME Journal Collection
- APS Package

E-Standards

- BI Standards
- ASTM Standards

E-Bibliographic Databases

- MathSciNet

Institutional Membership

The Central Library of the Institute has become institutional member of INSDAG (Institute for Steel Development & Growth), Kolkata, and also institutional life member of Current Science Association, Bangalore for the year 2017.

e-Shodh Sindhu Consortium Membership

The Central Library is also a member of e-Shodh Sindhu Consortium.

Workshop Organised

The Central Library organised a workshop on KOHA Library Management Software for the benefit of library and computer centre staff on May 11th and 12th, 2017. Several other engineering college librarians also attended the workshop.

Workshop Participation

The staff members of the Central Library participated in the workshop on "Institutional Digital Repository for Digital Library" jointly organized by the Central Library of IIT Kharagpur, and the Central Library of School of Planning and Architecture, Vijayawada.

Research Publications & Achievements

Faculty members of IIT Tirupati are actively involved in developing and adding new course curricula foreseeing the future requisites of their disciplines to the existing courses, innovative teaching and rigorous research. In addition to establishing the required infrastructure for teaching undergraduate courses, the faculty members at IIT Tirupati are engaged in research and publishing/presenting their research outputs in the journals/conferences of international repute. The research contribution in terms of publication is highlighted in the present chapter of the report.

5.1 Research Papers Published

Journals

- **Deshmukh, P. C.**, Pillay, K. J., Raju, T.S., Dutta, S., and Banerjee, T. (2017). "GTR component of planetary precession." *Resonance*, Volume 22, Issue 6, pp. 577-596.
- Ganesan, A., **Deshmukh, P. C.**, and Manson, S. T. (2017). "Photoionization of atomic barium subshells in the 4d threshold region using the relativistic multi-configuration Tamm-Dancoff approximation." *Physical Review A* 95, 033417.
- Narsimhamurty, M., Mane, R. G., Roby Chacko, Gupta, A. K., **Deshmukh, P. C.**, and Aravind, G. (2016). "Collisional destruction of FeC-n (n=1 to 4, 6) anions of astrophysical relevance." *The Astrophysical Journal*, Volume 833, Issue 2, pp. 269.
- Kumar, A., Varma, H. R., **Deshmukh, P. C.**, Manson, S. T., Dolmatov, V. K., and Kheifets, A. (2016). "Wigner photoemission time delay from endohedral anions." *Physical Review A* 94, 043401.
- Kheifets, A., Mandal, A., **Deshmukh, P. C.**, Dolmatov, V.K., Keating, D. A., and Manson, S. T. (2016). "Relativistic calculations of angle-dependent photoemission time delay." *Review A* 94, 013423.
- Srinivasu, D. S., and **Venkaiah., N.** (2017). "Minimum zone evaluation of roundness using hybrid global search approach." *International Journal of Advanced Manufacturing Technology*, Volume 92, Issue 5-8, pp. 2743-2754.
- Suresh, C. K. H., **Subidh Ali, Sk.**, Mazumdar, B., and Sinanoglu., O. (2016). "A comparative security analysis of current and emerging technologies." *IEEE Micro*, Volume 36, Issue 5, pp. 50-61.

- Möglinger, U., Resemann, A., Martin, C. E., Parameswarappa, S., **Subramanian Govindan**, Wamhoff, E. C., Broecker, F., Suckau, D., Pereira, C. L., Anish, C., Seeberger, P. H., and Kolarich, D. (2016). "Cross Reactive Material 197 glycoconjugate vaccines contain privileged conjugation sites." *Scientific Reports*, 6, (Nature Publishing Group), Article number 20488; doi: 10.1038/srep20488.
- **Oruganti, S. K.** Kaiyrakhmet, O., Heo, S.H., Lee, B. Y., Park, W., Seo, S., and Bien, F. (2016). "Evanescence Mode Power-transfer and Communication Technology for Internet of Things Device Charging over Metal Surfaces". 년도대한전자공학회하계종합학술대회, pp. 1633-1636.

Conferences

- **P. Mohanapriya**, N. Padmanathan, R. Pradeepkumar, **T. S. Natarajan** presented a research paper entitled "Synthesis of Fe-doped SnO₂ hollow nanofibers for magneto-optical applications by a facile single capillary electrospinning method" at *American Advanced Materials Congress*, Miami USA, 4-9 December 2016.
- Ankur Mandal and **P. C. Deshmukh** presented a research paper entitled "Confinement effects on EWS time delay in photoionization: an angle resolved study" at *21st National Conference on Atomic, Molecular and Optical Physics (NCAMP-XXI)*, Physical Research Laboratory, Ahmedabad, India, 3-6 January 2017.
- A. Ganesan, S. Saha, **P. C. Deshmukh**, Steven T. Manson and A. S. Kheifets presented a research paper entitled "Electron correlation effects on photoionization time delay in atomic Ar and Xe" at the *47th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics*, Rhode Island Convention Center, Providence, Rhode Island, U.S.A. May 23-27, 2016.
- Ankur Mandal, **P. C. Deshmukh**, Steven T. Manson and Anatoli S. Kheifets presented a research paper entitled "Angular dependence of Wigner time delay: Relativistic Effects" at the *47th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics*, Rhode Island Convention Center, Providence, Rhode Island, U.S.A. 23-27 May 2016.
- S. Saha, J. Jose, **P. C. Deshmukh**, Steven T. Manson and Anatoli S. Kheifets presented a research paper entitled "Wigner time delay in photo detachment of negative ions" at the *47th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics*, Rhode Island Convention Center, Providence, Rhode Island, U.S.A. 23-27 May 2016.
- A. Mandal, **P. C. Deshmukh**, Steven T. Manson and A. S. Kheifets presented a research paper entitled "Wigner time delay near dipole photoionization Cooper minima: Effects of quadrupole channels" at the *25th International Conference on Atomic Physics*, held at the COEX Auditorium, Seoul, South Korea, 24-29 July 2016.
- A. Ganesan and **P. C. Deshmukh** presented a research paper entitled "Photoionization study of barium subshells in the region of 4d threshold" at the *21st National Conference on Atomic, Molecular and Optical Physics (NCAMP-XXI)*, Physical Research Laboratory, Ahmedabad, India, 3-6 January 2017.
- S. Banerjee and **P. C. Deshmukh** presented a research paper entitled "Determination of photoemission time delay using the RRPA – relativistic and non-relativistic results for outer np-subshells of Ar, Kr & Xe" at the *21st National Conference on Atomic, Molecular and Optical Physics (NCAMP-XXI)*, Physical Research Laboratory, Ahmedabad, India, 03-06 January 2017.
- S. Saha, J. Jose, and **P. C. Deshmukh** presented a research paper entitled "Wigner time delay in photo detachment of Tm" at the *21st National Conference on Atomic, Molecular and Optical Physics (NCAMP-XXI)*, Physical Research Laboratory, Ahmedabad, India, 03-06 January 2017.

- Sreenivasa Rao M and **N. Venkaiah** presented a research paper entitled "Experimental investigation on re-cast layer thickness and micro-hardness of WEDMed surfaces of Nimonic-263" at the *1st International and 18th ISME Conference, (ISME-18)* organized by NIT Warangal on 23-25 February 2017.
- Sreenivasa Rao M and **N. Venkaiah** presented a research paper entitled "Modified flower pollination algorithm to optimize WEDM parameters while machining inconel-690 alloy" at the *International Conference on Emerging Trends in Materials and Manufacturing Engineering (IMME17)* organized by NIT Tiruchirappalli on 10-12 March 2017.
- D. T. Sarathchandra, S. Kanmani Subbu, **N. Venkaiah** presented a research paper entitled "Thermal deformation of agriculture briquette mould using finite element analysis" at the *1st International and 18th National Indian Society of Mechanical Engineers conference (ISME-18)* organized by NIT Warangal on 23-25 February 2017.
- D. T. Sarathchandra, S. K. Subbu, **N. Venkaiah** presented a research paper entitled "Modeling and analysis of functionally graded cylindrical shell" at the *International Conference on Emerging Trends in Materials and Manufacturing Engineering (IMME17)* organized by NIT Tiruchirappalli on 10-12 March 2017.
- **Sk. Subidh Ali**, M. Ibrahim, O. Sinanoglu, K. Chakrabarty, and R. Karri presented a research paper entitled "Microfluidic encryption of on-chip biochemical assays" at *IEEE Biomedical Circuits and Systems Conference (BioCAS 2016)*, p. 152-155.
- **M. Avulapati**, R. Pos, A. Megaritis, J. Xia and L. C. Ganippa presented a research paper entitled "Characteristics of high pressure ethanol spray flames in diesel engine-like environment using optical diagnostics." *ILASS-ASIA 2016*, Chennai, November 2016.
- I. D. C. Ruiz-Rodriguez, **M. Avulapati** and L. C. Ganippa presented a research paper entitled "Like-on-like impingement and atomization of highly viscous fluids" *ILASS-ASIA 2016*, Chennai, November 2016.

5.2 Invited Lectures Delivered by the IITT Faculty Members

- **Professor K. Krishnaiah** delivered an invited lecture on "Introduction to Research" at the National Workshop on Research Methodology and Report Writing, SVUCE, S V University, Tirupati on 21st April 2016.
- **Professor K. Krishnaiah** delivered an invited lecture on "What is Engineering?" at IITDM Kancheepuram, Melakottaiyur, Off Vandalur Kelambakkam Road, Chennai 600 127 (For Kanchipuram and Kurnool students) on 28th July 2016.
- **Professor K. Krishnaiah** delivered an invited lecture on "What is Science?" at an INSPIRE program, Chadalawada Ramanamma Engineering College, Chadalawada Nagar, Renigunta Road, Tirupati, December 2016.
- **Professor P. C. Deshmukh** delivered an invited lecture on "Why do things happen the way they do? - An introduction to classical and quantum laws of nature for lay persons" at GLA University, Mathura, India, 20 December 2016.
- **Professor P. C. Deshmukh** delivered an invited lecture on "Complex behavior of simple systems - Rudiments of chaos theory" at GLA University, Mathura, India on 21st December 2016.

- **Prof. V. Raghendra** delivered series of lectures in “National Level Training school in Mathematics for UG students” held at Sri Sathya Sai Institute of Higher Learning” during 26th December to 31st December 2016.
- **Prof. V. Raghendra** delivered lectures as Key Resource Person in Workshop on “Sobolev spaces” at IIT Patna during 16-23 February 2017.
- **Prof. V. Raghendra** delivered lectures as a Key Resource Person in an Advanced level workshop on “Diffusion and Sub-Diffusion Problems: Theory Numerics and Applications” at (WSDPTNA-2017) during 31st January to 5th February 2017.
- **Professor K. Krishnaiah** delivered an invited lecture on “Chemical Engineering in 21st Century” at Student Tech fest, Rajiv Gandhi Institute of Petroleum Technology (RGIPT), Rae Bareilly on 17th February 2017.
- **Professor P. C. Deshmukh** delivered an invited lecture on “Precession of planetary orbits in General Relativity” at Winter School in Astronomy, Hyderabad organized by the University of Western Ontario, London, Canada, on 23rd March 2017.

5.3 Awards/Achievements

Senior Professors of IIT Tirupati are frequently honoured for their excellence in teaching, research and contribution to society. Following are the awards received by the faculty members of the Institute during the year 2016-17:

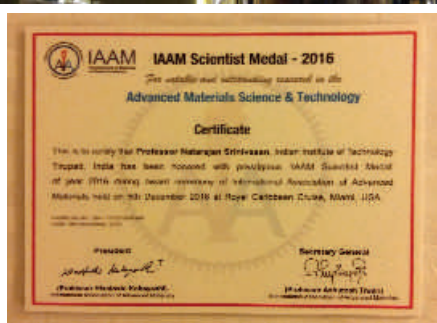
- **Dr. T. S. Natarajan**, Professor of Physics, IITT recently received the “Eminent Scientist” Science & Technology Award by KG Foundation, Coimbatore, for his outstanding contribution to Science and Technology in Educational Institutions.



Prof. T.S Natarajan receiving Eminent Scientist Award from KG Foundation



Professor T. S. Natarajan awarded with 'IAAM Scientist Medal' for the year 2016



- **Prof. T. S. Natarajan** was honored with the prestigious IAAM Scientist Medal for the year 2016 at the American Advanced Materials Conference on December 05, 2016 by the Royal Caribbean Cruise, Miami, USA.
- **Dr. K. Krishnaiah**, Professor, IITT recently received the "Life Time Achievement Award" for his outstanding life-long contribution to Engineering Education and Research.

National Initiatives

Swayam Prabha—An Initiative of MHRD

MHRD introduced 32 Direct to Home (DTH) educational channels named SWAYAMPARBHA channels on 1st January 2017, which are completely devoted to telecasting high-quality educational programs on 24 × 7 basis using the GSAT-15 transponders. Among these, two channels namely, Channel 18 (Physics, Metallurgy & Mining) and Channel 30 (Mathematics) are being coordinated by IIT Tirupati. Dr. T. S. Natarajan, Professor, IITT is the co-coordinator for these channels. MHRD allocated an initial budget of Rs. 10 lakhs to IITT for a period of first 3 years to start the channels. The lectures are chosen to address the interest of wide range of audiences or learners. However, the introductory lectures are mostly at the B.E., B. Tech levels of engineering. There are also a few courses on advanced topics which will be corresponding to the masters and Ph.D. level students. A plan to set up a full-fledged video recording studio to prepare educational content is underway at IIT Tirupati.

Preparation of Detailed Project Report (DPR) of Six New IITS

The detailed project report (DPR) for setting up six new IITs was prepared by the representatives of the mentor Institutes. The list of new IITs with their mentor Institutes is given below:

- IIT Palakkad and IIT Tirupati (mentored by IIT Madras)
- IIT Bhilai (mentored by IIT Hyderabad)
- IIT Dharwad and IIT Goa (mentored by IIT Bombay)
- IIT Jammu (mentored by IIT Delhi)

Prof. K. N. Satyanarayana, Director IIT Tirupati, coordinated the preparation of the DPR. The DPR presents the budget for 2500 student campus to be built in the next seven years (2017-2024) on the permanent campuses of the new IITs. The DPR includes the basic infrastructure necessary for future growth of the upcoming campuses to accommodate 10,000-12,000 students over a period of 20 years. The DPR contains the budgets for— (a) building infrastructure (b) equipment and (c) recurring. The DPR envisions that each Institute would be having about 11 departments (07 Engineering Departments, 03 Science Departments, and 01 Humanities and Social Sciences Department) within the next seven years.

The DPR was submitted to MHRD for the approval of Expenditure Finance Committee (EFC), Ministry of Finance, and the Cabinet.

7

Academic Events

In the academic year 2016-17, IIT Tirupati organised one International Conference and one national level workshop for the interaction of the faculty members and students of the Institute with the scholars across the world and experts from the Industry. Further, for the benefit of IIT Tirupati fraternity, the Institute invited the experts from academia and Industry for colloquium and special lectures. An orientation programme for giving an overview of the Institute and curriculum for the second batch of students was held at the start of the academic year.

7.1 Workshops, Conferences and Symposium Organised

Workshop on NPTEL (National Programme on Technology Enhanced Learning)

IIT Tirupati jointly organised a one-day workshop in collaboration with IIT Madras on “NPTEL (National Programme on Technology Enhanced Learning)” on June 30th 2016. The focus of the workshop was to introduce the open online courses to faculty members from various engineering, science, and management colleges.



An expert delivering a lecture in the workshop



A snapshot of organisers during the workshop session

International Conference on “Sustainable Energy Technologies for Smart & Clean Cities (SETS &CC-2016)”

Indian Institute of Technology Tirupati organised an International Conference on “Sustainable Energy Technologies for Smart & Clean Cities” (SETS &CC-2016) in collaboration with Amara Raja Batteries Ltd., Krishna Theja Educational Institutions, Municipal Corporation of Tirupati, and Southern University, USA, on 27-29 July 2016. The conference was held at Amara Raja Auditorium, Karakambadi, Tirupati, Andhra Pradesh, India. The conference was the first of its kind to bring together participants from academia, industry and policy makers to address sustainable energy technologies in the context of smart cities.

The organisers received overwhelming response from across the world and received 250 research papers, out of which the technical committee selected 196 to be presented and discussed at the conference. Experts of international repute from academia and industry from the USA, Germany, Australia, Singapore, South Korea, China, Saudi Arabia and India actively participated and delivered talks/presentations. 18 parallel sessions were run to accommodate maximum number of presentations on the theme of the conference, lined up with basic requirement for smart and clean cities.



Prof. K. N. Satyanarayana, Conference Chairman, welcoming the Chief Guest Mr. Reji Kumar Pillai, President of the Indian Smart Grid Forum (ISGF)



A few snapshots of the conference

Symposium on Atomic & Molecular Physics

Professor P. C. Deshmukh organised an In-House Symposium on Atomic & Molecular Physics at IIT Tirupati on 8th March, 2017.

7.2 Academic Orientation Programme

The current academic session began with an orientation programme. The newcomers and their parents were introduced to the education system at IIT Tirupati, and the new entrants were briefed to be ready for 4 years of college life ahead in the field of engineering. The orientation programme for the second batch took place on 1st August 2016. The students were addressed by the Mentor Director of IIT Tirupati Prof. Bhaskar Ramamurthi (Director, IIT



Prof. K. N. Satyanarayana, Professor In-charge addressing the students and parents

Madras), Prof. K. N. Satyanarayana (Professor-in-charge, IIT Tirupati) and the senior faculty members of the Institute. The students were asked to express their expectations from IIT Tirupati. In the post-lunch session, the students got registered for their academic courses. Officials from State Bank of India offered education loans to the students registering with the Institute. A few photos from the orientation programme are given below:



Mentor Director Prof. Bhaskar Ramamurthi addressing the students and parents



Students and their Parents in Student Orientation Programme 2016-17

7.3 Colloquium /Invited Talks

The Institute for the benefit of the faculty and students invites scholars from across the world for delivering special talks on various topics. A list of such invited talks is given below:

- **Dr. Satish T. S. Bukkapatnam**, Rockwell International Professor, Texas A & M University delivered a special lecture on "Manufacturing for Human Wellness and a Wearable Revolution" on August 10, 2016.
- **Dr. Vishal Saraswat**, a Visiting Scientist from R. C. Bose Centre for Cryptology and Security, Indian Statistical Institute, Kolkata, India delivered a colloquium talk on "Cryptography and its Applications in Information and Cyber Security" on January 4th, 2017.
- **Dr. Lakshmi**, Head, Marketing and Intellectual Property Rights, C-DOT Bangalore delivered a colloquium talk on "Recent trends in Telecom: How to Connect the unconnected" on January 4th, 2017.
- **Prof. T. S. Natarajan**, Department of Physics, IIT Tirupati delivered a colloquium talk on "Electrospinning" on January 11th, 2017.
- **Prof. V. Raghavendra**, Department of Mathematics, IIT Tirupati delivered a colloquium talk on "Glimpses on Fourier Series" on January 18th, 2017.
- **Prof. Sadanand Gokhale**, Director, LNM Institute of Information Technology, Jaipur delivered a colloquium talk on "New Paradigms in Engineering Education" on January 23rd, 2017.
- **Dr. Prasanna V Sampath**, Department of Civil Engineering, IIT Tirupati delivered a colloquium talk on "Understanding Fen Hydrology – a Data-intensive Groundwater Modeling Approach" on February 1st, 2017.

Mr. Glenn Robinson
delivering special talk



Prof. Satish T. S.
Bukkapatnam being
welcome by Prof. N. N.
Kishore



- **Dr. N Ravi Chandra Raju**, a Post-doctoral Fellow, University of Queensland, Australia delivered a colloquium talk on "Metal halide perovskites: a new family of semiconductors for photovoltaics" on February 15th, 2017.
- **Mr. Glenn Robinson**, Managing Director of XLr8 Andhra Pradesh delivered a special interactive talk on February 22nd, 2017.
- **Prof. S. R. Valluri**, Department of Physics and Astronomy, University of Western Ontario, London, Canada delivered a colloquium talk on "An overview of the Remarkable Lambert W function", on February 24th, 2017.
- **Dr. Madhan Mohan Avulapati**, Department of Mechanical Engineering, IIT Tirupati delivered a colloquium talk on "Liquid Sprays: Application and diagnostics with focus on automotive fuel injection" on March 1st, 2017.
- **Prof. S. T. Manson**, Department of Physics and Astronomy, Georgia State University, Atlanta, USA delivered a colloquium talk, "The Physics of Atoms: where we are, and where we are going" on March 8th, 2017.
- **Prof. Deshdeep Sahdev**, a particle theorist, in leading groups at Cornell University, Univ. of Pennsylvania, and the International Center for Theoretical Physics (Italy) delivered a colloquium talk on "Resolving Atoms and a lot more in our own Backyards" on March 22nd, 2017.

Institute Events

IIT Tirupati, keeping in mind the overall development of its students, organised various events during the year 2016-17. During the period under discussion, the Institute organised many events such as Teacher's Day celebration, visit of Hon'ble HRD Minister Shri Prakash Javdekar to the campus etc. A glimpse of the various events organised by the Institute in the year 2016-17 is summarised below.

First Institute Day

The first Institute Day of IIT Tirupati was celebrated on April 12th, 2016. Dr. Galla Ramchandra Naidu, Chairman, Amara Raja Group of Industries was the chief guest of the event. Prof. Bhaskar Ramamurthi, Mentor Director, IIT Tirupati, presided over the function. The event formally began with the welcome address by Prof. K.N Satyanarayana, Professor in-charge, IIT Tirupati, followed by the speeches of the Mentor Director Prof. Bhaskar Ramamurthi, and the chief guest.



The first Institute Day function



Students enthusiastically organized various cultural programmes and prizes were given to the winners of the various events. Vote of thanks was proposed by Prof. K. Krishnaiah.

A view of Students cultural programmes and prize distribution

Independence Day Celebrations

IIT Tirupati celebrated the 70th Independence Day as an Institute function. Professor K. N. Satyanarayana, Professor in-charge of the Institute, unfurled the national flag in the playground facing the front of the main building of the temporary campus, and delivered his Independence Day address. The faculty, staff members, and students of the institute fervently participated in the celebrations.



A view of Independence Day Celebrations

Teachers' Day Celebration

Prof. M. S Ananth, Former Director, IIT Madras was invited as the Chief Guest for Teachers Day Celebration at the Institute and also to inaugurate the Kitchen-cum-Dining Hall on September 6th, 2016.



Prof. M. S Ananth at IIT Tirupati as the Chief Guest for Teachers' Day Celebration

Hon'ble HRD Minister Shri Prakash Javdekar visited IIT Tirupati

Shri Prakash Javdekar, the Minister of Human Resource Development, Govt. of India visited IIT Tirupati on September 12, 2016 and had an interactive session with the faculty members of IIT Tirupati, and IISER Tirupati. He invited suggestions from all the faculty members on "How to build world class research Institutes?"



Prof. Bhaskar Ramamurthi, Mentor Director, IIT Tirupati welcoming Hon'ble HRD Minister Shri Prakash Javdekar



Hon'ble HRD Minister Shri Prakash Javdekar addressing faculty members of IIT Tirupati and IISER Tirupati

Visit of Shri R. Subramanyam, IAS, Additional Secretary, MHRD

Additional Secretary (TE), MHRD, made a visit to the permanent campus of IIT Tirupati with Prof. K. N. Satyanarayana, Professor in-charge, IIT Tirupati, Mr. Siddharth Jain, Collector, and Mr. Nishanth Kumar, Sub-Collector, Chittoor District on December 24, 2016 to discuss the matters related to the permanent campus. He also had an interactive session with faculty and staff of IIT Tirupati.



Shri R. Subramanyam,
Additional Secretary, MHRD
at IIT Tirupati



Students and faculty of IIT Tirupati with French Noble Laureate Prof. Serge Haroche



Faculty, staff and students of IIT Tirupati with French Noble Laureate Prof. Serge Haroche

French Nobel Laureate Serge Haroche, who was awarded the Nobel Prize in Physics in 2012 for his work on quantum physics, visited Tirupati in January 2017 to take part in the 104th Indian Science Congress held in Tirupati. The lecture meeting and interactive session at Bharatiya Vidya Bhavan was presided over by Prof. K. N. Satyanarayana, Professor in-charge, IIT Tirupati. The faculty and students of IIT Tirupati interacted with the Nobel Laureate personally after his informative lecture titled "Power and Strangeness of the Quantum; Decoherence, Quantum Technology in Physics" delivered at IISER Tirupati.

Prof. K. N. Satyanarayana took charge as the founder Director of IIT Tirupati

Prof. K. N. Satyanarayana took charge as the founder Director of IIT Tirupati on January 18, 2017. The Mentor Director of IIT Tirupati Prof. Bhaskara Ramamurthi, Director, IIT Madras handed over the charge at IIT Madras and subsequently addressed the faculty and staff of IIT Tirupati on January 20, 2017.



Prof. K. N. Satyanarayana taking charge as the founder Director of IIT Tirupati

Professor K. N. Satyanarayana as the founder Director of IIT Tirupati addressed the first Press Conference on January 19, 2017, where he talked about his vision of the Institute. He, in the conference, said that he would be building the transit campus of the Institute using Fast Track Technologies, which would reduce time and labour of building the campus as per need. He threw light on the thrust areas of the Institute and stated that the Institute has vision to pursue research in Smart Infrastructure, Food Engineering & Technology, Material Science & Engineering, Energy, Educational Technology, and Design.



Prof. K. N. Satyanarayana as the first Director of IIT Tirupati addressing a press conference

Republic Day Celebrations

IIT Tirupati celebrated the 67th Republic Day with patriotic fervor. Prof. K. N. Satyanarayana, Director, IIT Tirupati, hoisted the national flag and addressed the gathering. Security personnel, faculty, staff and students present there saluted the national flag. Students organised many cultural events leading to the national unity and love for the country. In an event called 'Idea Presentation' both faculty and students presented their ideas on various contemporary issues to draw the attention of young minds. All students, faculty and staff of the Institute participated in the Republic Day celebrations enthusiastically.



Director, IITT unfurling the national flag



Rangoli, decorated by IITT students on the occasion of Republic day



Campus Infrastructure

IIT Tirupati, since its inception, has been adding new infrastructure facilities to its temporary campus to meet the essential needs of the students as and when required. Being a new Institute, IIT Tirupati has a challenge of bringing up new infrastructure at the site of the permanent campus within the stipulated time, and to achieve its set goal the Institute is building hostels, laboratories and classroom complex as a part of transit campus on the site of the permanent campus, and also the process of appointing the Master plan Architect for the permanent campus is underway.

9.1 Temporary Campus

Academic Building

The temporary campus of the Institute is situated on the Tirupati–Renigunta road in the premises of Krishna Teja group of Institutions. It is well connected by road from two main railway stations, namely, Tirupati and Renigunta railway stations, and the Inter-state Bus Terminus of Tirupati. It is just 8 Kms away from the Tirupati Airport.



A view of the temporary campus, IIT Tirupati

The temporary campus building was significantly modified to meet the requirements of the Institute. Several new installations were carried out to provide the students with an optimum environment for learning.

This campus comprises of a 6000 sq.m building with following facilities:

<ul style="list-style-type: none"> • National Knowledge Network (NKN) Virtual Classroom 	<ul style="list-style-type: none"> • Workshop
<ul style="list-style-type: none"> • 30 Seater Class room – 2 nos 	<ul style="list-style-type: none"> • Computer Lab
<ul style="list-style-type: none"> • Auditorium – 200 Seater 	<ul style="list-style-type: none"> • Innovation lab
<ul style="list-style-type: none"> • 60 Seater Class room - 8 nos 	<ul style="list-style-type: none"> • Kitchen-cum-Dining Facility
<ul style="list-style-type: none"> • 120 Seater Class room – 1 nos 	<ul style="list-style-type: none"> • Cafeteria
<ul style="list-style-type: none"> • Faculty Cabins and Lounge 	<ul style="list-style-type: none"> • Gymnasium
<ul style="list-style-type: none"> • Guest Faculty room 	<ul style="list-style-type: none"> • Passenger Lift
<ul style="list-style-type: none"> • Staff room 	<ul style="list-style-type: none"> • 24x7 – 365 days DG Backup for entire campus
<ul style="list-style-type: none"> • Teaching Assistants room 	<ul style="list-style-type: none"> • RO system (2x500 Litres per hour)- For the purpose of drinking and cooking
<ul style="list-style-type: none"> • Meeting rooms 	<ul style="list-style-type: none"> • Outdoor and Indoor sports facilities
<ul style="list-style-type: none"> • Board room 	<ul style="list-style-type: none"> • Necessary facilities have been provided for Physically Challenged
<ul style="list-style-type: none"> • Centralized Wi-Fi 	<ul style="list-style-type: none"> • Class rooms – Installation of air conditioners is under progress, and will be ready by the end of December 2017
<ul style="list-style-type: none"> • Administration Office 	
<ul style="list-style-type: none"> • Electronics Lab 	
<ul style="list-style-type: none"> • Physics Lab 	
<ul style="list-style-type: none"> • Chemistry Lab 	

To cater to the needs of the students on the campus, a new building with kitchen and dining facility (approximately 6000 sqft.) has been built using Fast Track Technology. The pre-engineered steel building for the Kitchen-cum-Dining Hall was built in a record time of 45 days.



A view of Kitchen cum Dining Hall

The dining facility was inaugurated by Prof. M. S. Ananth, Former Director of IIT Madras on 6th September 2016.



Inauguration of Kitchen-cum-Dining Hall by Prof. M. S. Ananth

Student Hostels & other Facilities

The Institute has been striving to provide all the required facilities for the students to have a good learning environment and healthy life style. The Institute offers well-furnished hostels with dining facility to all its students. Financial assistance and scholarships are provided to all the deserving students. Students organise various events under the aegis of different clubs and societies patronised by the Institute. Sports activities, being integral part of education and good health, are frequently organised by the Sports Club.

Accommodation and Transportation

Students are provided accommodation in three different hostels. The details of infrastructure and facilities available at the hostels are listed below:

1) 1st year boys' hostel is at 21st Century Gurukulam, Sri Venkateswara University. The hostel is located near Alipiri, 13 kms from the Institute.

- The hostel has two of G+2 storey buildings consisting of 55 double occupancy rooms. The total capacity is around 110 students.
- Includes common facilities like dining-cum-kitchen, RO drinking water facility, air-conditioned recreation rooms and a gymnasium.
- In addition, cricket practice nets, volleyball and badminton courts are available for the students to play in the free time.



Boys' Hostel at Alipari

2) 2nd year boys' hostel is located at Lakshmiapuram colony, near the temporary campus.

- It has G+4 floor individual building in a built up area of around 13,700 Sq.ft.
- Total 16 flats are there in the building with 1 No. of 1 BHK, 14 Nos of 2 BHK and 1 No of 3 BHK flats.
- Includes RO drinking water facility, lift and air-conditioned recreation room facility.

3) 2nd year girls' hostel is located at Lakshmiapuram colony, near the temporary campus.

- It has G+2 floor individual building in a built up area of around 9,200Sq.ft.
- Total 14 flats are there in the building with 12 Nos of single BHK and 2 Nos of 2 BHK flats.
- It's a fully secured hostel with Air conditioned recreation facility and RO drinking water facility.

Transport facility has also been arranged by the Institute for the students to commute between the hostels and the Institute. The hostels have 24x7 Wi-Fi facility, connected through point-to-point radio from the main building of the Institute, washing machines, TV, water coolers, water heaters, computer rooms and gymnasiums. Four desktop systems have been installed in the common room of the boys' hostel.

Facilities are also available for the students to play indoor and outdoor games. Permission has been obtained from Bharatiya Vidya Bhavan for the students to play cricket and football on its grounds in evenings and on weekends. A faculty member, an academic staff member and a member of the supporting staff have been given the additional responsibility of taking care of the needs of students in the hostels.

Medical Facilities

The Institute has signed MoU with Sri Venkateswara Institute of Medical Sciences (SVIMS) Tirupati to provide medical facility to its students, faculty and staff. The students are provided 24x7 access to the medical facility.

Guest House Facility

In order to meet the lodging and boarding requirements of guest faculty members, guests and other dignitaries visiting IIT Tirupati, a guest house facility has been created by hiring 05 Flats in KCR Towers, Gajalakshmi Green City Layout, Damedu, Tirupati. For the purpose, 08 double occupancy and 02 single occupancy air-conditioned rooms with Wi-Fi and other required facilities are made available for the guests of the Institute. The guest house of the Institute has separate catering services in a centralised kitchen-cum-dining hall. Apart from the above, fully furnished two BHK apartments are made available to visiting faculty member intending to reside for a longer period say for 6 to 12 months.



A view of IIT Tirupati Boys' and Girls' Hostels



Guest house facility at KCR Towers

9.2 Permanent Campus

In pursuance of the recommendations of the Site Selection Committee (SSC) with the approval of the competent authority, and in accordance with Section 93 of the Andhra Pradesh Reorganisation Act 2014, it was decided to set up IIT Tirupati's permanent campus at a site in Merlapaka Village, Yerpedu (Mandal), Chittoor District, Andhra Pradesh. The Government of Andhra Pradesh has provided land to an extent of about 530.49 acres for the development of the permanent campus. This land is located on the Yerpedu–Venkatagiri road, 22 km from Tirupati town and 14 km from the airport. The land allocated has a scenic mountain backdrop. The permanent campus is expected to be operational by the year 2020.



A view of the land allocated for permanent campus, IIT Tirupati



A view of the compound wall of permanent campus

IIT Tirupati is expected to be a 12,000 student campus in the coming decades. In order to systematically develop the permanent campus, it is planned to appoint a Master Planning & Architecture consultant shortly.

At present, Government of Andhra Pradesh is constructing the peripheral compound wall for the permanent campus of the Institute in an area of 530 acres. The construction of the wall is nearly 60% complete, and is still under progress.

In order to provide inputs to Master plan, two reports were prepared, and the same are listed below:

- Detailed survey and contour mapping of the entire site
- Report on ecological management plan

Details of the report on Ecological Management Plan

In order to preserve the ecology of IIT Tirupati's permanent campus site, a detailed Ecological Management Plan (EMP) was prepared by Care Earth Trust, an NGO based organization in Chennai. The overall objective of the EMP was to create a baseline ecological map of IIT Tirupati's permanent campus site including the identification of critical habitats and ecosystem processes. The important recommendations of the EMP study was the creation of a Blue-Green Zone in the campus comprising of wetlands, streams and areas of dense vegetation, which would act as a zone of sustainability where the ecology would be protected, restored and conserved. The EMP forms a basis for one of the important components in the planning of the Master Plan for the campus.

9.3 Transit Campus

In order to meet the immediate requirements, it was decided to construct a transit campus, which will later be integrated with overall Master plan of IIT Tirupati campus.

The transit campus will include hostel facilities to house 600 hundred students, laboratory facilities, dining facility, class room complexes, residential blocks, and indoor and outdoor games facility in about 35 acres. The Architect and design for following facilities at the transit campus have been finalised:

- 4 Boys Hostels and 1 Girls Hostel (120 Seater) each around 2500 Sq.m. approximately
- 2 Lab Building for Engineering Disciplines 1986 Sq.m.
- Indoor Sports Auditorium 2398 Sq.m
- Dining Facility for students 1550 Sq.m
- Class room complex approx. 1473 Sq.m
- Residential building with 4 apartments: 290 Sq.m
- Maintenance office: 58 Sq.m
- Services including power, water, sewage treatment and roads



Bhoomi-Pooja of Transit Campus was performed on March 23 2017

All buildings on the transit campus are being constructed using Fast-track Construction Technologies like Glass-Fibre Reinforced Gypsum (GFRG) wall panel building System and steel Pre-Engineered buildings. The transit campus facility is expected to be operational by March 2018. The construction of the campus was entrusted to CPWD as deposit work.

Student Events

IIT Tirupati organises various events to provide the students with an opportunity to give a material shape to their innovative thinking and grow their multidimensional talent. The students of IIT Tirupati are actively involved in organising technical events, workshops and social activities. IIT Tirupati has around ten active clubs on academics, photography, music, drama, trekking, volunteering social activities etc.

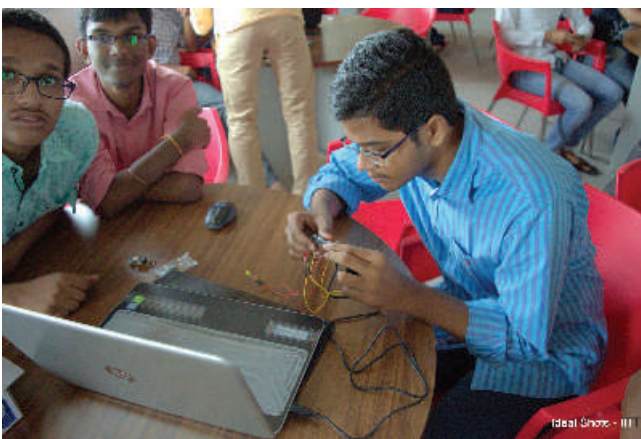
This section summarises the various events and activities organised by the students including— (a) technical events and workshop (b) NSS activities, (c) student clubs and sports related activities.

10.1 Technical Events

The following are the technical events organised in the year 2016-17:

Robokart Workshop

A two day workshop on Internet of Things (IoT) was organised by Robokart at IIT Tirupati on September 24th and 25th, 2016. The workshop consisted of an introduction to Arduino microcontrollers and other auxiliary components. A detailed introduction to Internet of Things, and integrated circuits (AVR concepts) were the highlights of the event. The students were made familiar with the terms like baud rate, transmission protocols, and Internet protocols. The workshop was highly successful in raising interest of the participants in Arduino and robotics.



Student participants of Robokart Workshop

Astronomy Workshop

The Astronomy Club of IIT Madras organised a two-day workshop on January 27th & 28th, 2017 for the student/faculty enthusiast in IIT Tirupati. The workshop included introduction to types of telescopes (Gallelian, and Cassegrain telescopes) and its mounting methods to view different planets. A particular session of the workshop was devoted to introduce astronomy related software. The star gazing session guided the students to view the Pleiades, Orion Nebula and another open cluster M35.



Student participants of Astronomy Workshop and a special view of sky

ANFANG

ANFANG was a student initiated first Tech Festival organised on 25th - 26th March 2017 at IIT Tirupati. This technical fest included workshops, talks by eminent speakers and various inter-college students competitions. A summary of the events held in the fest is given below:

• Workshops

- **Ethical Hacking** was organised to introduce the importance of knowing the skill to protect information more efficiently.
- **Eye Controlled Robot workshop** was organised to introduce students how to control the working of a robot with the movement of eyes (iris) by using image processing tools to recognise the eyes. The

students were exposed to the working principles of motors, blue-tooth communication along with micro-controller programming.



Student participants of ANFANG



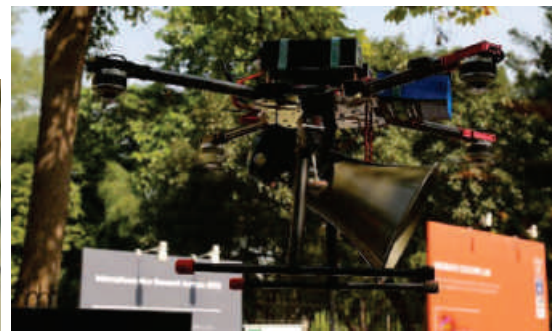
A student with 'Eye Controlled Robot'

• **Special Talks** by the experts were organised on the following topics:

- ◆ **Dr. V. Seshagiri Rao**, Former Associate Director, ISRO delivered a talk on “Signal Processing in Real-Time”
- ◆ **Dr. Krishna Venkatesh**, Director, CIIRC delivered a talk on “Micro Air Vehicles”
- ◆ **Mr. Deepak Radhakrishnan**, Senior Solar Thermal Engineer Empereal-KGDS Renewable Energy Pvt. Ltd. deliberated on the topic, “Fresnel Technology”.



A view from Garuda Drone Show at ANFANG



- **Garuda Drone Show** was conducted by Garuda Aerospace, an international standard certified company for Aerospace Quality Management Systems.
- **Mr. Raja Shekar Selva**, an electronics engineer, and his team presented Artificial Bird Expo, VR Expo, Smart Vehicle Exhibition and trained the interested students during the Fest.



A view from Artificial Bird Expo



Finally, on the second day, the fest concluded with a valedictory function presided over by the Director of the Institute, who appreciated the efforts made by the students in organising such technical fests of enormous benefit.



A view of valedictory function and participants of ANFANG

10.2 National Service Scheme (NSS) Activities

Tirupati and Renigunta railway stations

Student volunteers of the Institute created awareness at the railway stations through posters and paintings on waste management in efficient scientific manner.

Kendriya Vidyalaya



Demonstrating Acid-base & Indicator experiment

IIT student volunteers demonstrating the physics experiments to school students



Presentation on Science, Engineering & Technology



Presentation on "Medical"



Promoting "Learning by Doing"



Rise of water in the tilted jar when the candle inside goes off

Class room demonstration of physics experiments

To create an exposure and to motivate the school students to understand physics related phenomena, a demonstration of fundamental science experiments was made by the well-known Physicist Prof. T. S. Natarajan, Professor of Physics at IIT Tirupati. Further, the student volunteers of the institute conducted a detailed survey on what the students of that school were required to be taught. Based on the survey, NSS group planned further activities like introducing computer and internet to the students, exposure to competitive exams, laboratory activities, extra-curricular interests, etc. at the Kendriya Vidyalaya.

The NSS group interacted with the students through a presentation regarding preparation for civil service exams. The IITT student volunteers demonstrated a few physics and chemistry related experiments to the students of the school.

Nava Jeevan Blind Relief Centre

The volunteers visited Nava Jeevan Blind Relief Centre and taught the students of the centre in learning spoken English and science subject as per their need. The NSS volunteers also donated an amount of Rs.10,000 /- to the trust for buying benches as they were running short of it.

Regional Science Centre

Students volunteered an innovation festival organised at the Regional Science Center, Tirupati. The student volunteers were helping the school students to understand the various innovative project models kept in expo.



Student volunteers in Innovation festival

Abhaya Kshetram Orphanage

The student volunteers took an initiative to collect the used clothes from the fellow students in the hostel and the surrounding neighbourhood of the hostel, and then donated those to the needy children in the Abhaya Kshetram orphanage.



Student volunteers at Abhaya Kshetram Orphanage donating used clothes

NSS Activities with emphasis on Rural Development

Site visit to Palagutapalli



The NSS group visited a village named Palagutapalli twice under the guidance of Professor Nagesh of IIIT Sri City and participated in an activity named 'Jungle-Jal-Jameen', under which the visit was made to adjoining water body ('tank'), its supply channel ('stream') and adjoining farms.

In the second site visit, the student groups were engaged in field survey to collect information/quantitative data on crops being cultivated in the village, and productivity of the different crops usually cultivated in the territory.



Professor Nagesh, IIIT Sri City interacting with IITT students

Initiation of Unnat Bharat Abhiyan Activities

Prof. K. N. Satyanarayana and NSS team met Mr. Venkatarayalu, Tahsildar of Yerpedu Mandal to request VRO's of the respective villages to identify activities where IITT students can take part to assist in improving standards of life in the villages.



Director, IITT interacting with NSS members and Tahsildar, Chittoor District

10.3 Student Clubs and Activities

Student clubs and societies organise events to feel the life beyond texts. The following are the events organised by the different clubs and societies of the students during the period:



A few pictures of the short film

Actomania

This club was started on 22nd February 2016 with the idea of exploring the acting talent of the students and to perform skits, drama and short films. Ms. Y. Shrvanathi shouldered the responsibility of being the coordinator, and Ms. Vurukuti Tarani worked as the co-coordinator for the club.

The first short film- "Nithya-a Tragic Love Story" of Actomania Club was successfully completed in a week time with the support of all the cast and Photography club (IDEAL SHOTS), and secured the first prize at Short Film Contest in Abhisarga of IIIT-Sri City.

Artista

The art club, which caters to the talents in painting, sketching and crafting, is always ready to take up any opportunity to create something beautiful with a theme. The first coordinator of the club was Mr. Raghav Dhawan. Ms. Sonali Srivastava and Mr. Akshay Yadav co-coordinated in organising the activities of the Club.

Aranya

Aranya, the adventure club of IIT Tirupati has very actively been organising trekking to different beautiful spots. Mr. Sudhanshu Singh was given the responsibility of being the coordinator, while Mr. Pranjal Shukla, Mr. Leela Krishna Mohan, Ms. Kiran Jyoti Guntur, Mr. Aman Singh and Mr. Harshvardhan Jakula were selected to be the co-coordinators of the club.

Aranya organised a trek to Moolakonnam on August 13, 2016. The scenic beauty of the place enchanted every member of faculty, staff and student group who went for trekking. The visit to the place was very successful in terms of rejuvenating the adventurous spirit of the students in the beginning of the academic session.

Student Trek to Moolakonnam





The Aranya club organised a second trek to Tallakonnam on October 9, 2016. Tallakonnam is situated in Sri Venkateswara National Park, Chittoor District of Andhra Pradesh in India. With a 270 feet (82 m) fall, Talakona is the highest waterfall in Andhra Pradesh.



Student trek exploring the beauty of Tallakonnam

7K FUN RUN on January 28, 2017

Teachers, students and staff of IIT Tirupati went for a 7K FUN RUN on January 28, 2017 at the site of the permanent campus. This run, in true sense, was a fun for all the members of IIT Tirupati family. This event strengthened the interpersonal relationship of all the members of the Institute with each other.



Director, IIT Tirupati with faculty, staff and students during 7 K FUN RUN

Chaturanga

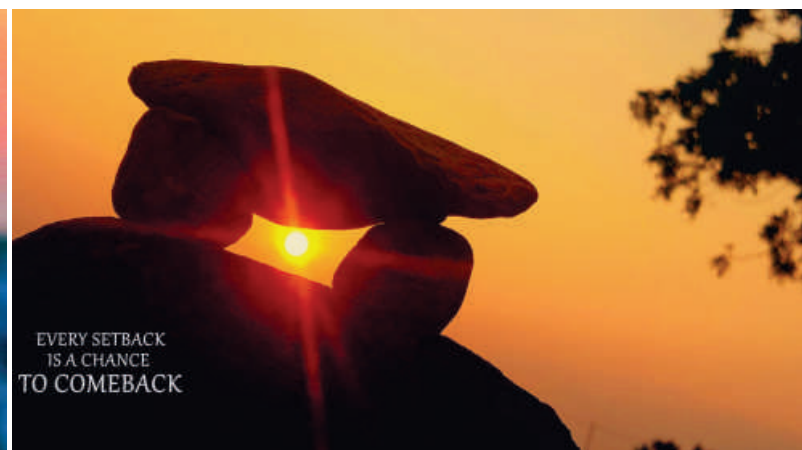
Chaturanga club was formed on January 27, 2017. Chaturanga Club of the Institute, organised a chess tournament among the students divided into four houses of the IIT Tirupati clubs. Mr. A. Chaitanya worked as the coordinator of the club while Mr. Muvva Sandeep carried out the responsibility of the co-coordinator.

Students participating in Intra
IIT Chess Tournament



Ideal Shots

Ideal Shots is a photography club, coordinated and co-coordinated by Mr. Venkata Krishna, Mr. Akhil Bharadwaj and Ms. Sandalika Sapra respectively. Ideal Shots, the photography club, organized events such as Photography Drive: Dawn and Dusk, and Independent Click capturing the beauty of sun at dawn and dusk which resembled the Republic Day theme during the Republic Day Week, 2017.



A few photos from photography Drive

Sahayog

This club manages what IIT Tirupati is most proud of. Its social initiatives like orphanage support, school teaching etc. are direct contributions of an institution to a social cause. The responsibility of being a coordinator of this club was shouldered by Ms. Deepika Kadela; and Mr. Aditya Dhall supported the activities as the co-coordinator of the club. Sahayog Club of the Institute organised a Blood Donation Camp on August 28, 2016 where students, faculty and staff of the Institute enthusiastically participated and donated their blood.



Blood Donation Camp

Sargam

Sargam, the music club, of IIT Tirupati caters to those interested in singing, composing. Mr. Mayank Srivastava being carried out the responsibility of the coordinator and Ms. B. Ramya and Mr. M. Vikas worked as the co-coordinators of the club.

This music club organised Antara: A Musical Event, a karaoke based solo singing competition on September 29, 2016. Majority of the students participated in this event. The event was judged by Dr. N. Padma from S. V. University. In the end of the competition, best performers were given prizes.



Antara: A Musical Event



Freshers' Night



Students celebrations at Fresher's Night



Sophomores of IIT Tirupati organised a freshers' night to welcome the newcomers in the Institute on October 1, 2016. The party, which included various performances like musical events, skits and student interaction sessions, was organized on the campus to strengthen the interpersonal relation among all the students of the Institute.

10.4 Sports Activities

A sports council to coordinate all the sports activities was set up in the Institute. The council, very successfully, helped the students organise various sports activities, and simultaneously also worked for developing a very robust foundation in the sports events at the Institute.

Following sports activities were organised during 2016-17:



Students playing Volleyball Match on the Temporary campus

Volleyball Match with IISER

A match of Volleyball was played between IISER and IIT Tirupati on March 18, 2017 and was held at IIT Tirupati Volleyball court. IIT Tirupati won the match by 3-1.

Student-Faculty Cricket Match

A cricket match between students and Teaching/Non-Teaching staff was organized on March 4, 2017 to strengthen the interpersonal relation/interaction between faculty and students. All the faculty members of various disciplines enthusiastically participated in the match.



A few snapshots of the faculty-student cricket match

Inter-IIT Sports Meet held at IIT Kanpur

Students from IIT Tirupati participated in the 51st Inter-IIT Sports Meet held at IIT Kanpur from December 12 – 19, 2016. A total of 18 students visited IIT Kanpur to compete in various track and field events. Since the previous Inter-IIT Meet at IIT Madras had been cancelled due to the unprecedented floods in December 2015, this was IIT Tirupati's first experience in participating in this prestigious event. The students availed this opportunity to the fullest by participating in various events and interacting with their peers from other IITs. As the contingent returned from IIT Kanpur, the promise of medals and glory in the coming years spurred them to strive for excellence in the sports arena as well.



Student participants in Inter-IIT Sports Meet at IIT Kanpur



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