



# CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY (A)

Kokapet(Village), Gandipet, Hyderabad, Telangana-500075. www.cbit.ac.in



COMMITTED TO  
RESEARCH,  
INNOVATION AND  
EDUCATION

**44**  
years

3.7.2 Number of functional MoUs with institutions of national, international importance, other universities, industries, corporate houses etc. during the last five years (only functional MoUs with ongoing activities to be considered)

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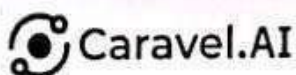
**Principal**  
**Chaitanya Bharathi Institute of Technology**  
**(Autonomous)**  
**Gandipet, Hyderabad-500 075.**

## MEMORANDUM OF UNDERSTANDING BETWEEN CARAVEL.AI AND CBIT

1. **Parties:** This Memorandum of Understanding (hereinafter referred to as "MOU") is made and entered into by and between the M/S CARAVEL, ONE27 ENTERPRISES PRIVATE LIMITED, Whose address is 91Springboard, HITEC City, Hyderabad and the Chaitanya Bharathi Institute of Technology (CBIT), whose address is Gandipet, Hyderabad.
2. **Purpose:** The purpose of this MOU is to give Industry-level exposure and R&D Services in CBIT which provide skill development and internship opportunities to students of CBIT. Caravel.AI will provide expertise in establishing, selecting students and guide teams to complete real-world projects from Industry.
3. **Responsibilities of CARAVEL Pvt Ltd:**
  - **Skill Development:** The budding graduates from the institutions will play a key role in technological up-gradation, innovation, and competitiveness of an industry. Caravel.AI believes that close co-operation with the institution would be of major benefit to the student community to enhance their skills and knowledge in order to bridge the skill gap and make them industry-ready.
  - **Curriculum Design:** Caravel.AI would give valuable inputs to CBIT in teaching/training methodology and suitably customize the curriculum so that the students fit into the industrial scenario meaningfully.
  - **Internship Opportunity:** Caravel.AI will provide internship opportunities for SELECTED students to work on real-world projects using the on-campus facilities to complete it.
  - **Industrial Training:** Industry and Institution interaction will give an insight into the latest developments/requirements of the industries. Caravel.AI to permit the faculty and students of the CBIT to visit its group companies and also involve in Industrial training programs for CBIT
  - **Research and Development:** Caravel.AI has agreed to carry out joint research activities with CBIT in the fields of Computer Science and other few branches and publish papers in conferences and international journals.
  - **Guest Lectures:** Caravel.AI to extend the necessary support to deliver guest lectures to the students of CBIT on technology trends and in house requirements. Guest lectures schedule shall be discussed by both parties based on the student free time.
  - **Faculty Development Programs:** Caravel.AI to train the Faculties of CBIT for imparting training as per the industrial requirements, if available. This includes all the latest technologies and tools that help them acquire better exposure to the current requirements.
4. **Responsibilities of CBIT:**
  - CBIT shall establish channels of communication and co-operation that will promote and advance their respective operations within the Institution and its related wings. The Parties shall keep each other informed of potential opportunities and shall share all information that may be relevant to secure additional opportunities for one another.

- CBIT shall provide a 6+ seater space for Caravel.AI with facilities like Computers, Furniture and, Networking so that the selected teams can work on their projects in-campus.
  - CBIT shall provide administrative & IT support staff to run the office.
  - CBIT shall provide its Labs / Auditoriums / Network / Common Sites for the hands-on training of the students/faculty enrolled with the Caravel.AI.
  - Caravel.AI shall remain as a partner in running CBIT Industry relations during the term of this agreement.
5. **Term of MOU:** This MOU is effective upon the day and date last signed and executed by the duly authorized representatives of the parties to this MOU and shall remain in full force and effect for not longer than 24 months. This MOU may be terminated, without cause, by either party upon 2 months written notice.
6. **General Provisions:**
- Amendments:** Either party may request changes to this MOU. Any changes, modifications, revisions or amendments to this MOU which are mutually agreed upon by and between the parties to this MOU shall be incorporated by written instrument, and effective when executed and signed by all parties to this MOU.
  - Approvals:** Both Parties to obtain all internal approvals, consents, permissions, and licenses of whatsoever nature required for offering the programmes on the terms specified herein
  - The entirety of Agreement:** This MOU represents the entire and integrated agreement between the parties and supersedes all prior negotiations, representations, and agreements, whether written or oral.
  - Severability:** Should any portion of this MOU be judicially determined to be illegal or unenforceable, the remainder of the MOU shall continue in full force and effect, and either party may renegotiate the terms affected by the severance.
7. **Signatures:** In witness whereof, the parties to this MOU through their duly authorized representatives have executed this MOU on the dates set out below, and certify that they have read, understood, and agreed to the terms and conditions of this MOU as set forth herein.

*The effective date of this MOU is the date of the signature last affixed to this page.*



Caravel one27 Enterprises Pvt. Ltd.

*Vihar Kufama*  
Vihar Kufama,

Founder and Chief Operating Officer

Date: 10.09.2018  
FOR CARAVEL ONE27 ENTERPRISES PRIVATE LIMITED



Chaitanya Bharathi Institute of Technology

*P. Ravinder Reddy*

Dr. P. Ravinder Reddy,  
Principal, CBIT

Date: 10.09.2018

Director



# CARAVEL.AI

CARAVEL ONE27 ENTERPRISES PRIVATE LIMITED

CIN: U74999AP2017PTC104816

GSTIN: 37AAGCC7911B2ZW

<https://CARAVEL.AI>

## Caravel.AI collaborated events with CBIT

Caravel.AI was partnered with CBIT in hosting three nationally recognised events.

**Django Camp 2017**

**Deep Learning Bootcamp 2018**

**Django Camp v2.0 2019**

**Django Camp v2.0**  
Come join us on 5th-6th September 2019, CBIT

**BUILD**  
Ridiculously Fast,  
Reassuringly secure,  
Exceedingly scalable  
**WEB APPS**

using  
**django**

REGISTER NOW AT  
[djangocamp.cbit.org.in](http://djangocamp.cbit.org.in)

IN ASSOCIATION WITH

edyst | AWS | CBIT

**DEEP LEARNING AND ALGORITHMS**  
A TWO DAY BOOTCAMP

19<sup>th</sup> and 20<sup>th</sup> September at CBIT, Hyderabad

Register at [dl.cbit.org.in](http://dl.cbit.org.in)

In Association With

Caravel.AI | edyst | AWS | CBIT

## Job opportunities offered by Caravel.AI to CBIT Students:

### Vihar Kurama ✓

Role: Machine Learning Engineer  
Branch : CSE-3, CBIT 160115733178  
SALARY: 12LPA

### Bhavesh Raja ✓

Role: Product Manager  
Branch : BIOTEC, CBIT 160115805041  
SALARY: 5.7LPA

## Internships offered by Caravel.AI to CBIT Students:

### Richa Kulkarni

Role: Cicullum Lead  
Branch : CSE-3, CBIT  
Date: 5th April 2017 - 5th July 2017  
Stipend: 7,000 per month

### Samhita Alla ✓

Role: Machine Learning Intern  
Branch and Roll Number: CSE3, 160115733013  
Date: 5th April 2018 - 5th July 2018  
Stipend: 15,000 per month

### Revannth Vedala ✓

Role: Machine Learning Intern  
Branch and Roll Number: CSE3, 160115733013  
Date: 5th April 2018 - 5th July 2018  
Stipend: 7,000 per month

### Dileep Matha ✓

Role: Data Science Intern  
Branch and Roll Number: CSE3, 160115733153  
Date: 5th April 2018 - 5th July 2018  
Stipend: 7,000 per month

**Krishnaveni Rokala** ✓

Branch and Roll Number: CSE2

Date: 22nd May 2019 to 30th June 2019

Stipend: 7,000 per month

**Hyder Hussain** ✓

Role: UI/UX Intern

Branch: IT1

Date: 5th April 2018 - 5th July 2018

Stipend: 5,000 per month

**Rahul Morra** ✓

Role: UI/UX Intern

Branch: CSE3

Date: 5th April 2018 - 5th July 2018

Stipend: 5,000 per month

**Mithula Reddy** ✓

Role: Frontend Dev

Branch: CSE2

Date: 5th April 2018 - 5th July 2018

Stipend: 5,000 per month

**Srinivas Gogineni**

Role: Machine Learning Intern

Branch: IT1

Date: 5th April 2018 - 5th July 2018

Stipend: 5,000 per month

**Pranv Devarakonda**

Role: Machine Learning Intern

Branch: CSE2

Date: 5th April 2018 - 5th July 2018

Stipend: 5,000 per month

## MEMORANDUM OF UNDERSTANDING

BETWEEN

**Chaitanya Bharathi Institute of Technology**

AND

**Storm International Group Pty Ltd (SIG), Australia**

This Memorandum of Understanding is made between **Chaitanya Bharathi Institute of Technology**, Address : Gandipet, near Financial District, Hyderabad, Telangana 500075, hereinafter called as **Party A** and **Storm International Group Pty Ltd**, Address Global HQ : Level 11, 167 Queen Street, Melbourne, Victoria 3000, Australia, hereinafter called as **Party B** establish hereby a formal understanding of cooperation and friendship which is intended to recruit students abroad. Under this Memorandum of Understanding, the two parties will proceed to implement the following endeavors and exchanges of materials and personnel.

### Areas of Cooperation

Cooperation shall be carried out for,

- a) Exchange of Faculty, Joint research and Academic Materials and other information with International Institutes
- b) Training of students for Test Preparations(GRE/GMAT/IELTS/PTE)
- c) Recruitment process of students to International Institutes

The terms of such mutual cooperation and activity that is implemented under the terms of this MOU shall be mutually discussed and agreed upon in writing by both parties prior to the initiation. The terms of the cooperation will be:

1. Introduction of Party A with International Institutes seeking collaboration on
  - Exchange of faculty members
  - Exchange of students during Semester breaks/ Summer Vacation/ Internships
  - Joint research activities
  - Participation of seminars and academic meetings
  - Exchange of academic materials and other information
  - Twinning / Transfer programs

2. All Test Preparation training will be provided by Party B.
3. Test Preparation training includes GRE/GMAT/IELTS/PTE.
4. Party B will be providing 50% OFF on all the Test Preparation to Party A students.
5. The same offer would be provided for the recent year pass out students of Party A.
6. Party B will be recruiting students to International Universities in USA, Australia, Canada, New Zealand, UK and Europe.
7. Party B will be handling the complete admission process involved for the student to get admission into International Universities in USA, Australia, Canada, New Zealand, UK and Europe.
8. Party B will NOT be charging any service charges for USA, Australia, Canada, New Zealand and UK. Students may have to pay for the University Application fee and courier charges to the International Universities if applicable.
9. There will be service charges for recruitment to European Universities.
10. Party B will be giving 50% waiver on service charges for recruitment to European Institutes from Party A.
11. This MoU is valid with Party B office located in Hyderabad (Himayath Nagar HO)
12. SIG Foundation Scholarship of 50% fee waiver of 1<sup>st</sup> year engineering fees for two students nominated by Party A.

### **Scope of the Cooperation**

The areas of cooperation include, subject to mutual consent on any Test Preparation trainings offered at either Party A or any of the four Party B Training center as felt desirable and feasible on either side, recruiting students abroad for their further education and that both sides can contribute to fostering and development of cooperative relationships between the two institutions. **Both the parties agree that there will not be any commercial terms on the cooperation.**

The assistance to be provided by Party A to Party B will be on training students for Test Preparations Training and recruiting process of students to abroad for Higher Education.

The Memorandum of Understanding (MoU) shall remain in force for a period of three years from the date it is signed by the appropriate officials of the two parties. It may further be extended or amended with the written agreement of both parties. This MoU may be terminated by either party subject to the delivery of six months advance notice in writing.



This MoU will be executed in English language, and will be considered as originals.

Authorized Representative  
Of Party A

Signature: P. Ravinder Reddy  
Name: Dr P. Ravinder Reddy

Designation: .....

Date: 30.08.2018

Authorized Representative  
Of Party B

Signature: Vamsi K Parvataneni

Name: Vamsi K Parvataneni

Designation: Founder & Chairman

Date: 30/8/18

## SIG's Spartans Scholarship Program

### Scholarships to Study in Australia in the Australia's best student cities:

In a bid to give back to society, SIG is hosting a series of corporate social responsibility projects across South India to mark its 17th anniversary in selected reputed colleges.

Through reputed Universities in Australia, SIG is offering merit scholarships to Top 50 students in your college.

SIG is committed to providing educational opportunities for students who have good academic background with good scholarships. SIG offers a range of scholarships to international students who wish to undertake postgraduate coursework study.

#### SIG's role:

- ✓ SIG will select the top 50 students from the list given by the college.
- ✓ Spartans scholarship day will be organized in the college by SIG with the permission of the college.
- ✓ SIG will also look after the admissions and visa process for other students who are not selected in the Top List. Other students who are interested in study abroad (who are not in the top 50) can also apply through SIG. Scholarship percentages differ for these students and some students may not be eligible for scholarships. However entire process from counseling till visas will be completed by SIG.
- ✓ SIG will start the scholarship process, once students attend the event. (Students need to bring their academic documents to apply for SIG will identify the Top Universities and the best courses possible for these students.
- ✓ SIG will apply scholarships for these students in the Top Universities in Australia
- ✓ There are deadlines for the scholarships and admissions; So SIG needs the college support to complete this process with the best possible way.
- ✓ SIG will take care of the entire process from admissions till visa process for these students.
- ✓ The minimum students for this program are 50 per college and a maximum of 100 students per year.
- ✓ 2018 & 2019 graduates are eligible to apply for this SIG's Spartans Scholarship Program

- ✓ Entire process will be completed in the stipulated timeline

Note: Timeline and the entire process will be given on the Scholarship day

**Institution's Contribution:**

Contribution of the college plays major role in the success of the program, we request the college to provide the required support on the points mentioned below:

- ✓ MoU between the Institution and SIG to be made before the program starts (Australian University needs a copy of the MoU.)
- ✓ College needs to provide the list of top students where SIG will be selecting the students for scholarship as per the eligibility criteria of Australian Universities.
- ✓ Organizing the **SPARTANS SCHOLARSHIP DAY** in the college
- ✓ Needs support in scanning the original documents of the students by releasing the documents and the students will immediately submit the documents back (or) if college scans and sends the documents of the students which requires no handover of docs to the students.
- ✓ Identifying and sending the students aspiring to study abroad to the SIG Fairs, where students will be meeting various University Officials and Faculty at one place. (SIG is conducting Global fair on 1<sup>st</sup> October and Australia Fair on 22<sup>nd</sup> October 2018 )
- ✓ Encouraging students to interact with University Officials which helps them in understanding the destination country and the University better (SIG will be informing the schedule prior to the University visit)

Authorized Representative  
CHAITANYA BHARATHI INSTITUTE  
OF TECHNOLOGY

Signature: *[Handwritten Signature]*

Name: *Dr. P. Ravinder Reddy*

Designation: *Principal*

Date: *30.08.2018*

Authorized Representative  
STORM INTERNATIONAL  
GROUP Pty Ltd

Signature: *[Handwritten Signature]*

Name: *Vamsi DALVATANENI*

Designation: *founder*

Date:

SIG's International Student Referral Program (ISRP)

SIG's International Student Referral Program was designed to reward CBIT for referring new international students to SIG for study in Australia.

SIG will be sponsoring Twenty Five Lakh Rupees (INR 25, 00,000) to the CBIT for the fest or annual event or any other purpose.

In return, CBIT will be providing SIG with brand visibility and awareness and the students who wish to study in Australia.

MOU between CBIT and SIG is required for this program.

Authorized Representative  
CHAITANYA BHARATHI INSTITUTE  
OF TECHNOLOGY

Authorized Representative  
STORM INTERNATIONAL  
GROUP Pty Ltd

Signature: *[Handwritten Signature]*  
Name: *Dr. P. Ravinder Reddy*  
Designation: *Principal*  
Date: *30.08.2018*

Signature: *[Handwritten Signature]*  
Name: *VANSHI PARVATHANENI*  
Designation: *founder*  
Date: *30/8/18*

More information about SIG's International Student Referral Program (ISRP)

- ✓ SIG will be paying CBIT (Fifty thousand rupees) INR 50,000 per student for all the top 50 students. The total referral amount is Twenty Five Lakh Rupees (INR 25,00,000 )
- ✓ CBIT will be referring fifty students for study in Australia. (If college refers new international students (The students received the visa and enroll in the University for undergraduate or graduate studies from the list of Australian universities represented by SIG; SIG will be paying CBIT Rs.50,000 as an honorarium way to thank CBIT.)
- ✓ This payment & program is applicable to students who wish to study in Australia only
- ✓ There are three intakes in Australia: March, July and November Intakes and payments for these intakes are June, October and February respectively.
- ✓ Students who are already under process with SIG are not included in this program. A full list of students who are currently under process with SIG will be submitted to the CBIT for the record.
- ✓ The SIG International Student Referral Program is only applicable to new students referred by CBIT, who complete their entire process through SIG without involving any other study abroad company.
- ✓ Undergraduate or Graduate studies should be of full time study and should complete their education in the same University for at least one full academic year with full load.
- ✓ Referred students who are working with a recruitment agency are not included in the International Student Referral Program
- ✓ Payments will be issued approximately 10 weeks after the new student's first semester has commenced in Australia.

[www.sigoverseas.com](http://www.sigoverseas.com)

**Memorandum of Understanding**

This Memorandum of Understanding is signed on this day the 1<sup>st</sup> of February 2018.

**Between**

**Gradvine Advisors Pvt. Ltd.**, a company incorporated under the Indian companies Act, 1956, having its registered and office address at 301, Ashoka Capitol, Road Number 2, Banjara Hills, Hyderabad, Telangana- 500034, India represented by its Director Mr. SreekarSannapareddy referred to as "The company" (which term shall unless repugnant to the context mean and include its successors-in-interest and permitted assignees) of the ONE PART.

AND

**Chaitanya Bharathi Institute of Technology**, a premier autonomous engineering college, located at Hyderabad, represented by its head Dr. P. Ravinder Reddy, Principal (which term shall unless repugnant to the context mean and include its successors-in-interest and permitted assignees) of the SECOND PART. each a "Party" and collectively "The Parties"

**WHEREAS**

The company recognizes that it is desirous to give career guidance, profile building and international admissions assistance to the students of the Institute. This service will help students understand the opportunities available to them both in India and globally.

AND

The institute recognizes and accepts that the guidance will facilitate unbiased dissemination of information to those students during and post their engineering education at the Institute.

**CONTACT**

04023592244 ; 04023551567

info@gradvine.com

www.gradvine.com

Flat No: 301, 3rd Floor,  
Ashoka Capitol, Road No: 2,  
Banjara Hills, Hyderabad,  
Telangana -500034

Now, therefore, both the company and the institute agree as follows.

**STATEMENT OF INTENT:**

Through this agreement both the "Company" and "Institute" intend to facilitate cooperation and collaboration in areas of mutual interest for the purpose of enhancing the career guidance process for the students of the institute. Each party intends to learn from the other party in the spirit of friendship, equality and mutual interest.

**SCOPE:**

Each party agrees to give due consideration to any request to collaborate and cooperate on any of the following areas:

1. Periodic on campus visits as and when mutually agreed upon
2. Periodic career guidance and profile building sessions on campus
3. Elite universities application mentoring for students
4. University application timelines
5. Networking, soft skills and elevator pitch training for future career growth
6. Student development and training programs
7. Any other activities mutually agreed upon

**ACTIVITY AGREEMENT'S**

The parties shall only undertake joint activities pursuant to a jointly authored contract, properly signed by all parties.

**DURATION:**

The agreement takes effect on the date both parties have signed for an initial period of three year, renewed or terminated thereafter under mutual consent.

**EXCLUSIVITY;**

"The Institute" agrees to extend an exclusive agreement to Gradvine Advisors Pvt. Ltd. For all mutually agreed activities before approving any other similar provider, "The Institute" should inform and give preference to Gradvine Advisors Pvt. Ltd. For conducting any other related activities.

**CONTACT**

04023592244 ; 04023551567

info@gradvine.com

www.gradvine.com

Flat No: 301, 3rd Floor,  
Ashoka Capitol, Road No: 2,  
Banjara Hills, Hyderabad,  
Telangana -500034

**MODIFICATION OR TERMINATION:**

The agreement will become effective when signed by both parties. The agreement will remain in effect for three year from the signature date below, and maybe renewed or amended by mutual agreement of the parties. The parties agree to periodically review the activities undertaken, the progress made, and to consult, concerning, amendments, renewal or termination of this agreement. Either party may terminate this agreement at any time by providing written notice of such termination to the other party.

**Signature and Notices:**

**Accepted and Agreed**

Signed P. Ravinder Reddy **PRINCIPAL**  
Printed Name: Dr. P. Ravinder Reddy **Chaitanya Bharathi Institute**  
Principal, CBIT **of Technology**  
**GANDIPET, R. R. (Dist.)**  
**HYDERABAD - 500 077**



Date 01.02.2018

**Accepted and Agreed**

For GRADVINE ADVISORS PRIVATE LIMITED  
Signed S. Sannapareddy

Printed Name: Mr. Sreekar Sannapareddy **Director**  
Director, Gradvine Advisors Pvt. Ltd.

Date \_\_\_\_\_

**GRADVINE ADVISORS PRIVATE LIMITED**  
Flat No.301, 3rd Floor, Ashoka Capital  
Banjara Hills, Road No.2, Opp. KBR Park  
Hyderabad - 500 034, T.S

**CONTACT**

04023592244 ; 04023551567

info@gradvine.com

www.gradvine.com

Flat No: 301, 3rd Floor,  
Ashoka Capitol, Road No: 2,  
Banjara Hills, Hyderabad,  
Telangana -500034





**CHAITANYA BHARATHI  
INSTITUTE OF TECHNOLOGY (A)**

Kokapet (Village), Gandipet, Hyderabad, Telangana-500075. [www.cbit.ac.in](http://www.cbit.ac.in)



ISO Certified  
9001:2015

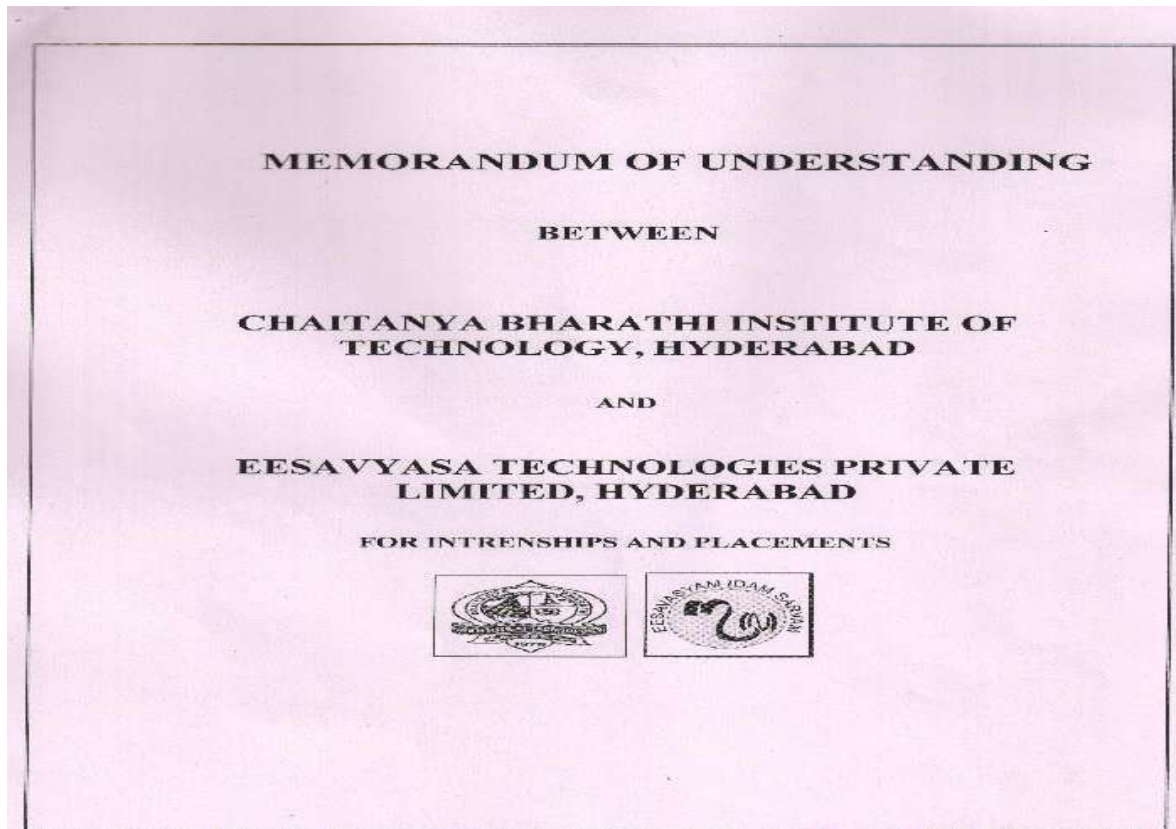
COMMITTED TO  
RESEARCH,  
INNOVATION AND  
EDUCATION

**44**  
years

## Department of Electrical and Electronics Engineering

Department of EEE has signed MoUs with the following Organizations/Industries.

1. **EESAVYASA TECHNOLOGIES Private Limited, Hyderabad** is a Private Institute which provides and Industry oriented training in Electrical discipline to fill the gap between Industry needs and Students Academic Skills.



## **PREAMBLE**

Whereas, Chaitanya Bharati Institute of Technology (CBIT) at its various engineering departments is charged with responsibility of training technical and scientific manpower in various front-line areas of importance for the Nation and is also contributing to the rapidly growing and technological knowledge and professional excellence in Technology by undertaking industrial & applied research and consultancy.

WHEREAS, EESAVYASA TECHNOLOGIES PVT LTD is engaged in design develop and manufacturing of Agriculture, Aquaculture, Water Treatment and Industrial power control Technologies.

WHEREAS, both CBIT and EESAVYASA, now

- Recognizing the importance of Research & Development in the areas of imparting industrial training to the engineering/technology/science.
- Appreciating the need for creation of large reservoir of highly qualified manpower in all fields related to Agriculture, Aquaculture, Water Treatment and Industrial power control Technologies.
- Desiring to club their efforts by pooling their expertise and resources -

INTEND to form a nucleus for promoting excellent quality manpower in the fields of engineering, technology and sciences with special emphasis on Agriculture, Aquaculture, Water Treatment and Industrial Power technologies.

NOW, THEREFORE, in consideration of the mutual promises made herein and of good and valuable consideration, the receipt and sufficiency of which both CBIT and EESAVYASA hereby acknowledge, CBIT and EESAVYASA hereby agree to sign a Memorandum of Understanding (MoU).

## **ARTICLE – I : SCOPE OF THE MoU**

This MoU details the modalities and general conditions regarding collaboration between CBIT and EESAVYASA for enhancing, within the country, the availability of highly qualified manpower in the areas of Agriculture, Aquaculture, Water Treatment and Industrial Power technologies without any prejudice to prevailing rules and regulations in CBIT and EESAVYASA without any disregard to any mechanism evolved and approved by the competent authorities under Govt. of India in so far as such mechanism applies to CBIT and EESAVYASA. The areas of cooperation can be extended through mutual consent.

## ARTICLE - II : SCOPE AND TERMS OF INTERACTIONS

Both EESAVYASA and CBIT shall encourage interactions between the Students & Staff and Engineers, of both the organizations through the following arrangements:

- a) Practical training of CBIT students at EESAVYASA in the form of One-full Semester Internship at EESAVYASA;
- b) Joint guidance of student projects/thesis in the areas of Agriculture, Aquaculture water treatment and related Technologies and other areas of national interest at CBIT by EESAVYASA on mutually agreeable terms.
- c) EESAVYASA may depute its personnel as visiting faculty at CBIT to supplement the teaching of any of the regular Course or specialized topics. Further, CBIT may request EESAVYASA to design and teach a Course or Courses which it deems fit to enhance quality and performance of its Students. Such Courses maybe run at any mutually convenient premises.
- d) EESAVYASA may request CBIT to design and teach a Course or Courses which it deems fit to enhance quality and performance of its employees. Such Courses maybe run at any mutually convenient premises.
- e) EESAVYASA personnel, as well as research scholars, may also be allowed to enroll for their M.Tech. at CBIT, subject to availability of seats, research facilities and subject to their fulfilling eligibility criteria and all other academic regulations of CBIT.
- f) EESAVYASA may seek assistance/guidance of CBIT Dean R&D, Internships in product/process modification, modernization, trouble shooting, etc.
- g) Would allow the industrial visits of students for half/full day to provide them with an exposure to various equipment, instrument, etc.
- h) EESAVYASA may showcase its business activities at the Seminar/Workshop/Conference, etc. at CBIT that will be conducted time-to-time.
- i) EESAVYASA may avail library, Internet, computational facilities at CBIT.
- j) The students will carry out part of their M.Tech./B.Tech. project at CBIT and EESAVYASA depending on the nature of the work as per rules of the respective institute depending on facilities and requirements.
- k) There will be no restriction on the contents of the thesis and on publication of results of the thesis, subject to the condition that no Intellectual Property Rights can be secured for any part of the work which will be decided with mutual consent.
- l) Both EESAVYASA and CBIT will be free to independently carry out follow-up research on the thesis work conducted under this scheme.
- m) If the outcome of a project related to product development, process technology and design etc. which involves matter of secrecy and concern with security of the State and the Country, the same will not be allowed for publication/printing in any form such as Electronically/verbal, etc. If the outcome of a project results into an intellectual property, for which rights can be secured, it will be decided on case-to-case basis. Similarly, sharing of expenditure in securing such rights and income accrued through royalty etc by the parties under the law will be decided on case-to-case basis after mutual consultation.

### **ARTICLE-III : SHARING OF FACILITIES**

- a) EESAVYASA shall extend its facilities for CBIT students towards the smooth conduct of Internships and Projects.
- b) CBIT and EESAVYASA make provisions to share their respective important R&D facilities in order to promote academic and research interaction in the areas of cooperation.
- c) CBIT and EESAVYASA permits the sharing software and other materials and components developed in-house in the areas of cooperation, if permissible within the rules governing the two institutions. However, responsibility for safety of software and other materials during the exchange will rest on respective Head of academic department/section.
- d) CBIT and EESAVYASA provide access to the library facilities to, members of faculty and students as per the prevailing rules and norms in the respective institutes.

### **ARTICLE – IV : CO-ORDINATION OF THE PROGRAMME INCLUDING FINANCIAL ARRANGEMENTS**

- a) The collaborative program between CBIT and EESAVYASA coordinate by a coordination committee appointed by local head of both the Institutions.
- b) Financial arrangements for each specific collaboration will be decided on a case-to-case basis and brought on record in each case after due approval from heads of both the Institutions.
- c) Any Financial transactions will be made in the name of EESAVYASA TECHNOLOGIES PVT. LTD. and CBIT(A), Hyderabad

#### **ARTICLE-V : EFFECTIVE DATE AND DURATION OF MoU**

- a) This MoU will be effective from the date of its signing by competent authorities at both ends as mentioned in the last page of this MoU.
- b) The duration of the MoU will be for a period of 5 years from the effective date.
- c) During its tenancy, the MoU may be extended or terminated by a prior notice of not less than six months by either party. However, termination of the MoU will not in any manner affect the interests of the students & faculty who have been admitted to pursue a Training/Project under the MoU.
- d) Any clause or article of the MoU may be modified or amended by mutual agreement of EESAVYASA and CBIT.

#### **ARTICLE - VI : IPR**

Rights regarding publications, patents, royalty, ownership of software/design/product developed etc. under the scope of this MoU, should be decided by EESAVYASA and CBIT by mutual agreement.

#### **ARTICLE – VII : CONFIDENTIALITY**

During the tenure of the MoU both CBIT and EESAVYASA will maintain strict confidentiality and prevent disclosure of all the information and data exchanged under the scope of this MoU for any purpose other than in accordance with this MoU.

Both CBIT and EESAVYASA shall bind their respective personnel who come into possession or knowledge of any confidential information not to disclose the same to third parties without written approval of the disclosing party or use such confidential information for any use other than intended under this agreement or PROJECTS.

Further both CBIT and EESAVYASA should put in place adequate and reasonable measures to keep and store confidential information secure to prevent any unauthorized use.

CONFIDENTIAL INFORMATION shall mean any proprietary information, data or facts belonging to PARTIES collectively or severally, disclosed by the disclosing party under this agreement or any subsequent agreement, whether in writing, verbal or electronically, irrespective of the medium in which such information is stored, which is marked confidential or with any other words having similar meaning by the disclosing party, or specifically agreed to be kept confidential by the parties, or declared or identified so by the disclosing party before such disclosure or during the discussions. However confidential information should not include any data or information which:

- (a) is or becomes publicly available through no fault of the receiving party,
- (b) is already in the rightful possession of the receiving party prior to its receipt of such data or information;
- (c) is independently developed by the receiving party without reference to the confidential information of the disclosing party
- (d) is rightfully obtained by the receiving party from a third party or is in the public domain
- (e) is disclosed with the written consent of the party whose information it is, or
- (f) is disclosed pursuant to court order or other legal compulsion, after providing prior notice to the disclosing party.

#### **ARTICLE – VIII : AMENDMENTS**

Any amendment and/or addenda to the AGREEMENT should be in writing and signed by the PARTIES hereto and shall only after such execution be deemed to form part of the MoU and have the effect of modifying the MoU to the extent required by such amendment or addenda.

#### **ARTICLE – IX : RESOLUTION OF DISPUTES**

- a) This MoU shall take effect and be construed in accordance with the Laws of India and be subject to the jurisdiction of the courts at Hyderabad.
- b) The dispute or difference whatsoever arises between PARTIES in relation to or in connection with this MoU both the parties should first try to resolve the dispute/difference amicably between them, failing which the matter can be referred to and settled through arbitration.

#### **ARTICLE – X : MISCELLANEOUS**

- a) The headings and sub-headings are inserted for convenience only and should not affect the construction of this MoU.
- b) After this MoU has been signed, all preceding understandings/negotiations and correspondence pertaining to it will become null and void.

## AGREEMENT REGARDING LABVIEW ACADEMY PROGRAM

This Agreement Regarding LabVIEW Academy Program ("Agreement") is made by and between **CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY (AUTONOMOUS)**, Ocean Park Rd, Kokapet Village, Gandipet Mandal, Rangareddy District, Hyderabad, Telangana – 500 075 ("CBIT") and **NI Systems (India) Private Limited ("NI")**, having an address at 81/1 & 82/1, Salarpuria Softzone, Wing B, 5th Floor, Block A, Bellandur, Varthur Hobli, Bangalore - 560 103, Karnataka, India, effective as of **05<sup>th</sup> September 2017** (the "Effective Date"). For good and valuable consideration, the parties agree as follows:

1. **Institution; Courses.** Institution warrants and represents that it is a degree-granting educational institution. During the Term (as defined below), Institution agrees to offer and conduct courses for academic purposes at Institution's facilities, in a professional manner, teaching the use of the NI LabVIEW software, which courses must not be for commercial, corporate or "customer" training purposes and must (a) be taught by an instructor who is then currently a Certified LabVIEW Associate Developer (the Certified LabVIEW Associate Developer certificate needs to be updated every two years) who regularly teaches degree-fulfilling or continuing education courses to students enrolled in or taking continuing education courses at Institution ("Instructor"); (b) include at least 30 hours of instruction specifically directed to the use of the LabVIEW software; (c) be provided in accordance with a course syllabus reviewed and approved by NI; and (d) otherwise meet requirements provided or made available by NI to Institution from time to time (the "Courses"). Faculty members, who are part of the LabVIEW training program at the Institution, are eligible for free CLAD exam for the first attempt.
2. **NI Instructional Materials.** During the Term, NI agrees to provide to Institution, at no charge, the "Instructional Materials" identified on Exhibit A (the "Materials") solely for the purpose of Institution's teaching the Courses.
  - 2.1. Subject to, and conditioned on Institution's compliance with, the terms of this Agreement, NI hereby grants to Institution, and Institution hereby accepts, a nonexclusive, nontransferable, limited license, for the Term (as defined below) only, to (a) use the Materials for the sole purpose of teaching the Courses, (b) provide the Materials only to those students enrolled (or taking continuing education classes) at Institution and who are taking the Courses ("Students"), except that Institution may not provide to any Students, or to any persons or entities other than Instructors, any Materials which are designated on Exhibit A as "Instructor Use Only", and (c) make a reasonable number of copies of only those Materials which are identified on Exhibit A as "Copying Permitted for Course Use", but only as necessary for the purpose set forth in this Subsection 2.1.
  - 2.2. Institution hereby agrees not to itself, and not to encourage or assist Students or others to, (a) copy or reproduce any Materials except as expressly permitted in Subsection 2.1, (b) transfer, disseminate or distribute any Materials to any third-party, except Students to the extent expressly permitted in Subsection 2.1, or (c) use any Materials for any purpose other than the Courses. On any termination or expiration of this Agreement, if NI requests, Institution shall, at Institution's sole cost and expense, return to NI all Materials identified on Exhibit A as "Instructor Use Only".
3. **Required Software Products Not Included.** Institution agrees to obtain from NI (or National Instruments Ireland Resources Ltd.), at Institution's sole cost and expense, the necessary Academic Teaching Licenses (as described in the applicable National Instruments Software License Agreement) to use the LabVIEW software in conducting the Courses; and to obtain from NI (or National Instruments Ireland Resources Ltd.), or cause each of the Students to so obtain, at their sole cost and expense, the necessary Student Edition Licenses (as described in the applicable National Instruments Software License Agreement) to use the LabVIEW software in the Courses. Institution agrees to comply with, and to cause the Students to comply with, such licenses, including without limitation ensuring that the licensed software is not used for any research, commercial, industrial, or other purpose prohibited by the applicable National Instruments Software License Agreement. Except as may be expressly modified by this Agreement, the terms and conditions of the applicable National Instruments Software License Agreements govern Institution's, and the Instructors' and Students', uses of the LabVIEW software as related to the LabVIEW Academy Program and the Course.
4. **Required Textbooks and Equipment Not Included.** Institution further agrees to obtain and provide, at Institution's sole cost and expense, or to cause each of the Students to so obtain, at their sole cost and expense, textbooks acceptable to NI for use in the Course; one personal computer (PC) per Student (with LabVIEW software licensed as described in Section 3); and NI DAQ equipment, or other appropriate NI equipment approved by NI, required for lab component (2 Students:1 equipment unit ratio). Such textbooks, PC and NI DAQ equipment, and any other appropriate NI equipment approved by NI, must be obtained separately and are subject to separate charges.
5. **Name, Logo, and Trademarks.**
  - 5.1. Subject to, and conditioned on Institution's compliance with, the terms of this Agreement, NI hereby grants to Institution, and Institution hereby accepts, a nonexclusive, nontransferable, limited license, for the Term (as defined below) only, to display the "LabVIEW

Academy" Logo identified on Exhibit B hereto, the "LabVIEW Academy" name, any and all trademarks of NI therein, including without limitation, "LabVIEW", "National Instruments", and the "LabVIEW" logo design, only as part of, and as each appears in, the "LabVIEW Academy" Logo or the "LabVIEW Academy" name as the case may be (such trademarks being referred to as the "Marks"), solely in connection with providing, selling, promoting and advertising the Courses, solely on web site displays, printed literature, and other materials acceptable to NI and which are of an acceptable level of quality determined by NI in NI's sole discretion, and solely in accordance with Exhibit B hereto and any and all other guidelines and instructions provided or made available by NI to Institution from time to time. In no event may Institution display or use any Mark except as part of, and as it appears in, the "LabVIEW Academy" Logo or the "LabVIEW Academy" name as the case may be.

- 5.2. With a view to ensuring the maintenance of an acceptable level of quality of the web site displays, printed literature, and other materials, and the Courses, on or in connection with which the "LabVIEW Academy" Logo and/or "LabVIEW Academy" name are displayed, Institution shall submit, at no charge, representative specimens of such materials and Course-related materials to NI for review, as may be requested by NI from time to time, and to permit NI representatives to attend Course sessions at no charge to such extent as may be reasonable for such purpose. Institution agrees to comply with Exhibit B hereto and any and all other requirements, guidelines and instructions provided or made available by NI to Institution from time to time, in each instance of Institution's display of the "LabVIEW Academy" Logo or "LabVIEW Academy" name.
- 5.3. Goodwill generated by any use by Institution of the "LabVIEW Academy" Logo or the "LabVIEW Academy" name and the Marks, inures solely to the benefit of NI, and no use thereof shall give Institution any right, title or interest in any of such logos, names, or Marks. Upon notice by NI, or in any event on any termination or expiration of this Agreement, Institution shall immediately cease all display and use of the "LabVIEW Academy" Logo, the "LabVIEW Academy" name, and the Marks, and all advertising, promotional and sales literature bearing any of such logos, names, or Marks. In the event of a claim of infringement or violation of any intellectual or industrial property right involving the "LabVIEW Academy" Logo, the "LabVIEW Academy" name, or any Mark, Institution agrees to make such modifications to the "LabVIEW Academy" Logo or the "LabVIEW Academy" name, or cease any and all display and use of them, as may be instructed by NI in writing. Institution acknowledges NI's ownership of the Marks and agrees to make no use thereof except as may be expressly permitted by this Agreement. At NI's request, Institution agrees to reasonably cooperate with NI, at NI's reasonable expense, in NI's evidencing and protecting NI's rights in the Marks, including without limitation by providing, executing and delivering to NI any reasonably requested documents in furtherance thereof. Institution recognizes and acknowledges the goodwill appurtenant to use and/or ownership of the Marks, the validity of the Marks, NI's rights in the Marks, NI's registrations for the Marks (if any), and the distinctiveness of Marks. Institution agrees to take no action to attack, contest or undercut NI's ownership or the validity of any of the Marks or any applications to register or registrations thereof, or which would tend to destroy or diminish the goodwill in any of the Marks. Without limiting the generality of the foregoing, Institution shall not during the term of this Agreement or thereafter:
  - (a) apply to register or maintain any application or registration of any of the "LabVIEW Academy" Logo, the "LabVIEW Academy" name, any Mark, or any mark confusingly similar to any Mark, in any jurisdiction, domestic or foreign;
  - (b) take any action that may tend to imply or express that Institution is the owner of any Mark or that Licensee has any right, title or interest in ownership or usage in any Mark;
  - (c) use or register an internet domain using, containing, or confusingly similar to the "LabVIEW" Academy name, or any Mark;
  - (d) misuse any Mark;
  - (e) use the "LabVIEW Academy" Logo, the "LabVIEW Academy" name, or any Mark in any manner which may diminish the goodwill appurtenant in any Mark, or disparage NI or NI's business or any of NI's products or services;
  - (f) use any colorable imitation or variant form of the "LabVIEW Academy" Logo, the "LabVIEW Academy" name, or any Mark, not specifically approved in writing by NI;
  - (g) alter or deface the "LabVIEW Academy" Logo, the "LabVIEW Academy" name, or any Mark in any way except as may be instructed in writing by NI; or
  - (h) use, in connection with the manufacture, sale, distribution, or promotion of any products or services (except display of the "LabVIEW Academy" Logo and the "LabVIEW Academy" name in connection with the Courses to the extent expressly permitted in this Agreement) the "LabVIEW Academy" Logo, the "LabVIEW Academy" name, or any Mark, or any mark or name confusingly similar to any of them.
- 5.4. Institution may not take any action against a third party in relation to the "LabVIEW Academy" Logo, the "LabVIEW Academy" name, or any Mark, without NI's prior written consent. NI undertakes no obligation to register or apply to register, or to maintain any registrations of, the "LabVIEW Academy" Logo, the "LabVIEW Academy" name, or any Mark in any jurisdiction. Institution will, immediately upon becoming aware, give full written particulars to NI of (a) any allegation that the "LabVIEW Academy" Logo, the "LabVIEW Academy" name, or any Mark infringes the rights of any third party, or (b) any unauthorized use of the "LabVIEW Academy" Logo, the "LabVIEW Academy" name, or a Mark by a third party. Institution will not make any allegation, admission, settlement, or comment in respect of any such matter without the prior written consent of NI. Unless specifically and expressly waived in accordance with Section 15, NI will have sole right to control the prosecution, defense and any settlement of any claim, dispute or proceedings related to the "LabVIEW Academy" Logo, the "LabVIEW Academy" name, or a Mark, including but not limited to NI's sole discretion regarding whether to implement any action and whether or not to bring or defend, or settle or attempt to settle, any claim, dispute or proceeding.



6. **No Other Licenses.** Institution acknowledges that all intellectual and industrial property rights, including but not limited to any copyrights and trademarks, which relate to the Materials, belong to and are retained by NI or NI's subsidiaries, as applicable. No rights, licenses or permissions, express, implied or by estoppel, are granted by NI except for the limited licenses expressly set forth in this Agreement. All rights not expressly permitted to Institution in this Agreement are reserved to NI.

7. **Warranty Disclaimer.** INSTITUTION ACKNOWLEDGES AND AGREES THAT THE LICENSES, MATERIALS AND INFORMATION PROVIDED BY NI ARE AND WILL BE PROVIDED ON AN "AS IS" BASIS AND WITHOUT WARRANTY OF ANY KIND, AND NO WARRANTIES, EXPRESS OR IMPLIED, ARE MADE WITH RESPECT TO SUCH LICENSES, MATERIALS OR INFORMATION, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, NON-INFRINGEMENT, OR ANY OTHER WARRANTIES THAT MAY OTHERWISE ARISE FROM USAGE OF TRADE OR COURSE OF DEALING; ANY AND ALL OF WHICH IMPLIED AND STATUTORY WARRANTIES ARE HEREBY DISCLAIMED, TO THE FULL EXTENT PERMITTED BY LAW.

8. **Term and Termination.**

8.1. **Term.** This Agreement shall commence on the Effective Date and continue for a period of one (1) year subject to any renewal as provided below, and in any event subject to termination as provided below (the "Term"). This Agreement shall automatically renew for no more than three (3) successive one (1)-year periods unless either party, in its sole discretion and for its convenience, for any reason or for no reason, otherwise notifies the other party of nonrenewal in writing at least sixty (60) days prior to the end of the original or the then-current renewal period, as applicable.

8.2. **Termination.** If either party breaches this Agreement, the other party may terminate this Agreement upon notice to such party if such breach has not been cured to the reasonable satisfaction of the other party within thirty (30) days following written notice of the breach. This Agreement shall terminate immediately and automatically if the Institution suspends operations, is or becomes the subject any bankruptcy or similar proceeding, makes an assignment for the benefit of creditors, or is adjudicated bankrupt or insolvent.

8.3. **Effect.** The following sections and subsections shall survive any termination or expiration of this Agreement: 2.2, 5.3, 5.4, 6, 7, 8.3, 9, 10, 11, 12, 13, 14 and 15.

9. **INDEMNITY; LIMITED LIABILITY.**

9.1. **Indemnity By Institution.** Institution shall indemnify, defend and hold NI harmless for (a) any damage, expense (including reasonable attorneys' fees), loss, or injury (collectively, "Losses") arising from or in connection with any failure to comply with any of the provisions of Section 5 or any of its subsections; and (b) Losses claimed or sustained by Institution, a Student or other third-party relating to or arising from any Courses or any activities related thereto; however the same may be caused, including without limitation wholly or partially by the fault, negligence or strict liability of NI or others; provided that NI promptly notifies Institution of such claim, and provides Institution with the authority, assistance, and information Institution needs to defend or settle such claim. Institution shall not be liable for a settlement made without its prior written consent.

9.2. **Indemnity By NI.** NI shall indemnify, defend and hold Institution harmless for any claim by a third party that the Materials, as provided by NI, infringe such third party's United States copyrights; provided that such claim does not arise from use of the Materials other than as expressly permitted in this Agreement, from any use or combination of the Materials with other materials not provided by NI, or from modification of the Materials not made by NI; and provided that Institution promptly notifies NI of such claim, and provides NI with the authority, assistance, and information NI needs to defend or settle such claim. NI shall not be liable for a settlement made without its prior written consent. This Subsection 9.2 states Institution's sole remedy for, and NI's entire liability and responsibility for, infringement of any patent, trademark, copyright, or other intellectual or industrial property right relating to the Materials. THIS LIMITED INDEMNITY IS IN LIEU OF ANY OTHER STATUTORY OR IMPLIED WARRANTY OR REMEDY AGAINST INFRINGEMENT.

9.3. **Liability.** EXCEPT AS PROVIDED IN SUBSECTION 9.2, IN NO EVENT SHALL NI BE LIABLE FOR ANY DIRECT, ACTUAL, INDIRECT, INCIDENTAL, SPECIAL, PUNITIVE OR CONSEQUENTIAL DAMAGES, OR DAMAGES FOR LOSS OF PROFITS, REVENUE, DATA OR DATA USE, INCURRED BY INSTITUTION, OR ANY STUDENT OR OTHER THIRD PARTY, ARISING FROM THIS AGREEMENT, WHETHER IN AN ACTION IN CONTRACT OR TORT, EVEN IF NI HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, AND EVEN IF CAUSED BY THE FAULT, NEGLIGENCE OR STRICT LIABILITY OF NI OR OTHERS. IN NO EVENT SHALL NI'S LIABILITY UNDER THIS AGREEMENT EXCEED, IN THE AGGREGATE, THE AMOUNT OF US\$1,000 (ONE THOUSAND U.S. DOLLARS).

10. **Independent Contractors; Freedom of Action.** Institution and NI are independent contractors to one another and nothing herein shall be deemed to create an agency, partnership, joint venture, franchise or employment relationship between NI and Institution or its personnel, and neither party shall represent to the contrary, either expressly, implicitly, by appearance or otherwise. Institution acknowledges, represents, and agrees that it has not paid, and will not pay, any fee to enter into this Agreement. The licenses, rights and permissions granted to Institution under this Agreement are nonexclusive. NI may provide identical or similar licenses to others. Further, NI may itself, or with others, (including without limitation other educational institutions), provide, deliver and/or teach courses that are the same as, or similar to, the Courses, or engage in other activities described in this Agreement.

11. **Assignment.** Each party understands and acknowledges that this Agreement is personal to the parties and accordingly, except for NI's right to assign this Agreement to a related entity, neither party may assign this Agreement (in whole or part) without the prior written consent of the other and any attempt to do so shall be void. Institution may not delegate or subcontract any of its obligations under this Agreement without NI's prior written consent.
12. **Choice of Law and Forum.** This Agreement shall be construed under the laws of India. Any dispute or claim arising out of or in connection herewith, or the breach, termination or invalidity thereof, shall be settled by a sole arbitrator, in accordance with the provisions of the Arbitration and Conciliation Act, 1996. The place of arbitration shall be Bangalore and the arbitration proceedings shall take place in the English language. The arbitration award is final and binding upon the parties and the parties undertake to carry out any arbitration award without delay and shall be deemed to have waived their right to any form of recourse insofar as such waiver can validly be made.
13. **Notices.** All notices which shall be given by either party under the terms of this Agreement shall be in writing and be hand delivered, sent by facsimile transmission, overnight delivery, or sent by certified mail, return receipt requested, addressed to the receiving party at the address listed below or to such other persons or addresses as may be designated by a party in writing. Notice shall be effective on the date it is received or receipt is confirmed or, if mailed as described above, no later than ten (10) days after the date of such mailing.
14. **Compliance with Laws.** Institution agrees to comply with all applicable laws, including without limitation United States export laws and regulations, in Institution's performance of, and exercise of rights under, this Agreement.
15. **Entire Agreement; Counterparts; Language; Amendment; Construction; Severability; Waiver.** This Agreement, together with the exhibits attached hereto and referred to herein, embodies the entire understanding between the parties regarding the subject matter hereof and supersedes all prior representations, discussions and communications, whether oral or written. This Agreement may be executed in two counterparts, each of which taken together shall constitute one single agreement between the parties. This Agreement may be executed by facsimile signature. This Agreement is solely in the English language. Any translations into any other languages shall be of no effect in interpreting this Agreement or otherwise. No amendment, change, alteration, or modification hereof may be made except in a writing signed by both parties. The headings used herein are for convenience only and shall not enter into the interpretation hereof. Each term and condition of this Agreement will be construed in such manner to be valid, enforceable and in compliance with applicable law. If any provision of this Agreement is deemed or held by a court of competent jurisdiction to be invalid or unenforceable in whole or in part, such construction will neither impair nor affect the validity or enforceability of any other provisions of this Agreement. The failure to insist upon strict compliance with any of the provisions of this Agreement shall not be deemed a waiver of any such provision, nor shall any waiver or relinquishment of any right or power hereunder, at any one or more times, be deemed a waiver or relinquishment of such right or power at any other time or times. No waiver of any right under this Agreement is effective unless made in writing, signed by an authorized representative of the waiving party and dispatched to the benefiting party in accordance with Section 13.

EXECUTED as of the Effective Date set forth above.

**NI Systems (India) Private Limited**

Signature:

Jayaram Pillai  
Managing Director  
Date:

Notice Address:

81/1 & 82/1, Salarpuria Softzone,  
Wing B, 5th Floor, Block A, Bellandur, Varthur Hobli,  
Bangalore - 560 103, Karnataka, India



**CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY**

Signature:

Dr. P. Ravinder Reddy  
Principal  
Date: 05.09.2017

Notice Address:

Ocean Park Rd, Kokapet Village, Gandipet Mandal, Rangareddy  
District, Hyderabad, Telangana 500075  
India

**PRINCIPAL**  
Chaitanya Bharathi Institute  
of Technology  
GANDIPET, R. R. (Dist.)  
HYDERABAD - 500 075



## EXHIBIT A

### Instructional Materials:

- Instructors Guide
- LabVIEW Core I and II manuals
- Exercises and Solutions for Core I and II manuals
- LabVIEW Instructional slides (Core I and II, CLAD Prep)—Instructor Use Only
- 45 supplemental LabVIEW questions—Copying Permitted for Course Use
- Instructor version of the Student Workbook (PDF)—Instructor Use Only
- Student workbook version (PDF)—Copying Permitted for Course Use

## EXHIBIT B

### 1. LabVIEW Academy Logo:

The "LabVIEW Academy" logo is set out below for identification (the "SAMPLE" watermark is not part of the logo—the artwork for the logo will be made available after execution of this Agreement by Institution and NI):



### 2. Requirements:

In addition to the other requirements of this Agreement with respect to the use of the "LabVIEW Academy" Logo, the "LabVIEW Academy" name, and the Marks, Institution agrees to comply with the guidelines at [www.ni.com/trademarks](http://www.ni.com/trademarks) and any and all other guidelines that may be provided or made available by NI to Institution from time to time, and to include, in prominent type and font as specified by NI, the following legend in all materials on or in connection with which the "LabVIEW Academy" Logo or the "LabVIEW Academy" name are used:

"LabVIEW", "National Instruments", and the "LabVIEW" logo design are trademarks of National Instruments Corporation, and are used, as part of the "LabVIEW Academy" logo and the "LabVIEW Academy" name, with the permission of National Instruments Corporation. [name of Institution], not National Instruments Corporation, is solely responsible for the courses offered by [name of Institution], including without limitation those teaching the use of the LabVIEW™ software, and all materials, content, software, and code contained in or made available through this document or web site. Neither [name of Institution], nor any courses or other goods or services offered by [name of Institution], are affiliated with, endorsed by, or sponsored by National Instruments Corporation.

Serial Number: 100-317-21490  
Issue Date: August 24, 2017  
Expiration Date: August 23, 2019

NI CUSTOMER EDUCATION  
**Certification**

# A.V. Narasimha Rao

Has successfully completed all requirements and is now granted the title of:



**Certified LabVIEW  
Associate Developer**  
National Instruments

A handwritten signature in black ink, appearing to read 'Alex Davern', written over a horizontal line.

**Alex Davern**  
President and CEO  
National Instruments

Serial Number: 100-317-21489  
Issue Date: August 24, 2017  
Expiration Date: August 23, 2019

NI CUSTOMER EDUCATION  
**Certification**

# B. Neeraja

Has successfully completed all requirements and is now granted the title of:



**Certified LabVIEW  
Associate Developer**  
National Instruments

A handwritten signature in black ink, appearing to read 'Alex Davern', written over a horizontal line.

**Alex Davern**  
President and CEO  
National Instruments

Serial Number: 100-317-21488  
Issue Date: August 24, 2017  
Expiration Date: August 23, 2019

NI CUSTOMER EDUCATION  
**Certification**

# B. Roopa

Has successfully completed all requirements and is now granted the title of:



**Certified LabVIEW  
Associate Developer**  
National Instruments

A handwritten signature in black ink, written over a horizontal line.

**Alex Davern**  
President and CEO  
National Instruments

Serial Number: 100-317-21487  
Issue Date: August 24, 2017  
Expiration Date: August 23, 2019

NI CUSTOMER EDUCATION  
**Certification**

# G. Mallikharjuna Rao

Has successfully completed all requirements and is now granted the title of:



**Certified LabVIEW  
Associate Developer**  
National Instruments

A handwritten signature in black ink, appearing to read 'Alex Davern', written over a horizontal line.

**Alex Davern**  
President and CEO  
National Instruments



Serial Number: 100-317-21486  
Issue Date: August 24, 2017  
Expiration Date: August 23, 2019

NI CUSTOMER EDUCATION  
**Certification**

# G. V. Pradeep Kumar

Has successfully completed all requirements and is now granted the title of:



**Certified LabVIEW  
Associate Developer**  
National Instruments

A handwritten signature in black ink, appearing to read 'Alex Davern', written over a horizontal line.

**Alex Davern**  
President and CEO  
National Instruments



Serial Number: 100-317-21485  
Issue Date: August 24, 2017  
Expiration Date: August 23, 2019

NI CUSTOMER EDUCATION  
**Certification**

# K.S.R.S. Jyothsna

Has successfully completed all requirements and is now granted the title of:



**Certified LabVIEW  
Associate Developer**  
National Instruments

A handwritten signature in black ink, appearing to read 'Alex Davern', written over a horizontal line.

**Alex Davern**  
President and CEO  
National Instruments

Serial Number: 100-317-21484  
Issue Date: August 24, 2017  
Expiration Date: August 23, 2019

NI CUSTOMER EDUCATION  
**Certification**

# M.V. Kiran Kumar

Has successfully completed all requirements and is now granted the title of:



**Certified LabVIEW  
Associate Developer**  
National Instruments

A handwritten signature in black ink, appearing to read "Alex Davern", written over a horizontal line.

**Alex Davern**  
President and CEO  
National Instruments

Serial Number: 100-317-21483  
Issue Date: August 24, 2017  
Expiration Date: August 23, 2019

NI CUSTOMER EDUCATION  
**Certification**

# N. Dhana Lakshmi

Has successfully completed all requirements and is now granted the title of:



**Certified LabVIEW  
Associate Developer**  
National Instruments

A handwritten signature in black ink, appearing to read 'Alex Davern', written over a horizontal line.

**Alex Davern**  
President and CEO  
National Instruments

Serial Number: 100-317-21482  
Issue Date: August 24, 2017  
Expiration Date: August 23, 2019

NI CUSTOMER EDUCATION  
**Certification**

# P. Sathish

Has successfully completed all requirements and is now granted the title of:



**Certified LabVIEW  
Associate Developer**  
National Instruments

A handwritten signature in black ink, appearing to read "Alex Davern", written over a horizontal line.

**Alex Davern**  
President and CEO  
National Instruments

Serial Number: 100-317-21481  
Issue Date: August 24, 2017  
Expiration Date: August 23, 2019

NI CUSTOMER EDUCATION  
**Certification**

# T.Aravinda Babu

Has successfully completed all requirements and is now granted the title of:



**Certified LabVIEW  
Associate Developer**  
National Instruments

A handwritten signature in black ink, written over a horizontal line.

**Alex Davern**  
President and CEO  
National Instruments

Serial Number: 100-317-21480  
Issue Date: August 24, 2017  
Expiration Date: August 23, 2019

NI CUSTOMER EDUCATION  
**Certification**

# Uttama Ghosh Dutta

Has successfully completed all requirements and is now granted the title of:



**Certified LabVIEW  
Associate Developer**  
National Instruments

A handwritten signature in black ink, appearing to read "Alex Davern", written over a horizontal line.

**Alex Davern**  
President and CEO  
National Instruments

Serial Number: 100-317-21479  
Issue Date: August 24, 2017  
Expiration Date: August 23, 2019

NI CUSTOMER EDUCATION  
**Certification**

# V. Yadagiri

Has successfully completed all requirements and is now granted the title of:



**Certified LabVIEW  
Associate Developer**  
National Instruments

A handwritten signature in black ink, appearing to read 'Alex Davern', written over a horizontal line.

**Alex Davern**  
President and CEO  
National Instruments





# Microsoft Technology Associate

## YADAGIRI VARIKUPPALA

Has successfully completed the requirements to be recognized as a Microsoft Technology Associate:  
Database Administration Fundamentals.

Date of achievement: 12/05/2014

Certification number: F096-4853

Satya Nadella  
Chief Executive Officer

**Microsoft**  
Technology Associate

# **G. Mallikharjuna Rao**

**has successfully completed the following course:**

## **LabVIEW NXG Core 1: Acquire, Analyze, Visualize (English, v2.0)**

**on**

April 10, 2020

Alex Davern President and CEO National Instruments

NI CUSTOMER EDUCATION

Online Course Completion

**G. Mallikharjuna Rao**

**has successfully completed the following course:**

**LabVIEW Core 3 (English, v2016)**

**on**

April 11, 2020

Alex Davern President and CEO National Instruments

NI CUSTOMER EDUCATION

Online Course Completion

**G. Mallikharjuna Rao**

**has successfully completed the following course:**

**LabVIEW Core 2 (English, 2019)**

**on** April 5, 2020

Alex Davern President and CEO National Instruments

NI CUSTOMER EDUCATION

Online Course Completion

**G. Mallikharjuna Rao**

**has successfully completed the following course:**

**LabVIEW Core 1 (English, 2019)**

**on**

April 4, 2020

Alex Davern President and CEO National Instruments

NI CUSTOMER EDUCATION

Online Course Completion

**G. Mallikharjuna Rao**

**has successfully completed the following course:**

**Advanced Architectures in  
LabVIEW (English, v2012)**

**on**

April 20, 2020

Alex Davern President and CEO National Instruments

# **G. Mallikharjuna Rao**

**has successfully completed the following course:**

## **Data Acquisition Using NI-DAQmx and LabVIEW (English, v2016)**

**on**

April 16, 2020

Alex Davern President and CEO National Instruments

# **G. Mallikharjuna Rao**

has successfully completed the following course:

## **LabVIEW NXG Core 2: Create User-Driven Applications (English, v2.0)**

on

April 12, 2020

Alex Davern President and CEO National Instruments



# CHAITANYA BHARATHI INSTITUTE TECHNOLOGY (A)



## CERTIFICATE

Certified that this project report, "OPTICAL CHARACTER RECOGNITION USING LABVIEW," is the bonafide work of **CH.AKHILA(160116735121)**, **M.MANEESHA (160116735130)**, **P.SRIJA (160116735141)** who carried out the project work under my supervision using National Instruments LabVIEW.

Signature

**Sri. G. Mallikharjuna Rao**

**Assistant Professor**

Signature

**Dr. D. Krishna Reddy**

**Head, Dept. of ECE**

HEAD  
DEPARTMENT OF ECE  
Chaitanya Bharathi Institute of Technology  
Hyderabad-500 075

# CHAITANYA BHARATHI INSTITUTE TECHNOLOGY (A)



## CERTIFICATE

Certified that this project report, "OPTICAL CHARACTER RECOGNITION USING LABVIEW," is the bonafide work of **CH.AKHILA (160116735121)**, **M.MANEESHA (160116735130)**, **P.SRIJA (160116735141)** who carried out the project work under my supervision using National Instruments LabVIEW.

Signature

**Sri. G. Mallikharjuna Rao**

**Assistant Professor**

Signature

**Dr. D.Krishna Reddy**

**Head, Dept. of ECE**

HEAD

DEPARTMENT OF ECE

Chaitanya Bharathi Institute of Technology

Hyderabad-500 075

# CHAITANYA BHARATHI INSTITUTE TECHNOLOGY (A)



## CERTIFICATE

Certified that this project report, “ IMPLEMENTATION OF SHANNON ENCODING ALGORITHM USING LABVIEW,” is the bonafide work of **GEETHA VAISHNAVI (160116735124) PRAVALLIKA.A (160116735134), REVATHI.S (160116735138)** who carried out the project work under my supervision using National Instruments LabVIEW.

Signature

**Sri. G. Mallikharjuna Rao**

**Assistant Professor**

Signature

**Dr. D. Krishna Reddy**

**Head, Dept. of ECE**

HEAD  
DEPARTMENT OF ECE  
Chaitanya Bharathi Institute of Technology  
Hyderabad-500075

# CHAITANYA BHARATHI INSTITUTE TECHNOLOGY (A)



## CERTIFICATE

Certified that this project report, " ENCRYPTION AND DECRYPTION OF TEXT FILE USING FFT ALGORITHM ," is the bonafide work of **HEMA BHARAT JANI (160116735125)**, **S.SREYA SREE (160116735138)**, **B.SRIVANI (160116735140)** who carried out the project work under my supervision using National Instruments LabVIEW.

Signature

**Sri. G. Mallikharjuna Rao**

**Assistant Professor**

Signature

**Dr. D. Krishna Reddy**

**Head, Dept. of ECE**

**HEAD**  
**DEPARTMENT OF ECE**  
Chaitanya Bharathi Institute of Technology  
Hyderabad-500 075

# CHAITANYA BHARATHI INSTITUTE TECHNOLOGY (A)



## CERTIFICATE

Certified that this project report, "LIGHT INTENSITY BASED STREET LIGHT CONTROL," is the bonafide work of **JAHNAVI RAMAGIRI (160116735126)**, **MADHUMITHA (160116735128)**, **B.PURNIMA (160116735135)** who carried out the project work under my supervision using National Instruments LabVIEW.

Signature

**Sri. G. Mallikharjuna Rao**

**Assistant Professor**

Signature

**Dr. D. Krishna Reddy**

**Head, Dept. of ECE**

**HEAD**  
**DEPARTMENT OF ECE**  
Chaitanya Bharathi Institute of Technology  
Hyderabad-500 075

# CHAITYANYA BHARATHI INSTITUTE TECHNOLOGY (A)



## CERTIFICATE

Certified that this project report, "PERFORMANCE ANALYSIS OF WATER TEMPERATURE USING LABVIEW," is the bonafide work of **LAHARI RAVVA (160116735127)**, **NEHA BEGUM (160116735131)**, **NIKARIKA (160116735132)** who carried out the project work under my supervision using National Instruments LabVIEW.

Signature

**Sri. G. Mallikharjuna Rao**

**Assistant Professor**

Signature

**Dr. D.Krishna Reddy**

**Head, Dept. of ECE**

HEAD  
DEPARTMENT OF ECE  
Chaitanya Bharathi Institute of Technology  
Hyderabad - 500 075

# CHAITANYA BHARATHI INSTITUTE TECHNOLOGY (A)



## CERTIFICATE

Certified that this project report, "WEATHER MONITORING STATION USING LABVIEW AND ARDUINO," is the bonafide work of **DANDE MADHUMITHA (160116735129)**, **K.ADITYA (160116735143)**, **G.AKILA (160116735139)** who carried out the project work under my supervision using National Instruments LabVIEW.

Signature

**Sri. G. Mallikharjuna Rao**

**Assistant Professor**

Signature

**Dr. D. Krishna Reddy**

**Head, Dept. of ECE**

HEAD

DEPARTMENT OF ECE

Chaitanya Bharathi Institute of Technology

Hyderabad-500 075

# CHAITANYA BHARATHI INSTITUTE TECHNOLOGY (A)



## CERTIFICATE

Certified that this project report, "TRASH DISPOSAL USING A DC MOTOR DIRECTION CONTROL IN ARDUINO USING LABVIEW ," is the bonafide work of **SHREYA LOKRAY (160116735137)**, **SANJANA PERABATHULA (160116735139)**, **VAISHNAVI SUTHRAM (160116735142)** who carried out the project work under my supervision using National Instruments LabVIEW.

Signature

**Sri. G. Mallikharjuna Rao**

**Assistant Professor**

Signature

**Dr. D. Krishna Reddy**

**Head, Dept. of ECE**

HEAD  
DEPARTMENT OF ECE  
Chaitanya Bharathi Institute of Technology  
Hyderabad-500 075



# CHAITANYA BHARATHI INSTITUTE TECHNOLOGY (A)



## CERTIFICATE

Certified that this project report, "GENERATION OF PULSE WIDTH MODULATION FOR RADIO FREQUENCY SIGNALS USING LABVIEW ," is the bonafide work of **P.CHAITHANYA KRISHNA (160116735146)**, **MOHAMMED ABUL IFRAN (160116735154)**, **M.SAI VIKAS (160116735169)** who carried out the project work under my supervision using National Instruments LabVIEW.



Signature

**Sri. G. Mallikharjuna Rao**

**Assistant Professor**

Signature



**Dr. D. Krishna Reddy**

**Head, Dept. of ECE**

HEAD  
DEPARTMENT OF ECE  
Chaitanya Bharathi Institute of Technology  
Hyderabad-500 075

CHAITANYA BHARATHI INSTITUTE TECHNOLOGY (A)



**CERTIFICATE**

Certified that this project report, "ENCRYPTION AND DECRYPTION OF TEXT USING LABVIEW ," is the bonafide work of **K.NIKHIL (160116735157)**, **B. PAVAN KUMAR (160116735158)**, **K.PRANAY (160116735160)** who carried out the project work under my supervision using National Instruments LabVIEW.




Signature

**Sri. G. Mallikharjuna Rao**

**Assistant Professor**

Signature



**Dr. D.Krishna Reddy**

**Head, Dept. of ECE**

HEAD  
DEPARTMENT OF ECE  
Chaitanya Bharathi Institute of Technology,  
Hyderabad-500 075

CHAITANYA BHARATHI INSTITUTE TECHNOLOGY (A)



**CERTIFICATE**

Certified that this project report, "GREENHOUSE MONITNGS SYSTEM USING LABVIEW," is the bonafide work of **S. NAVYA(160116735334)**, **E.SUSHMITHA (160116735335)**, **K.PRIYANKA (160116735336)** who carried out the project work under my supervision using National Instruments LabVIEW.

Signature

Sri. G. Mallikharjuna Rao

Assistant Professor

Signature

Dr. D.Krishna Reddy

Head, Dept. of ECE

**HEAD**  
**DEPARTMENT OF ECE**

Chaitanya Bharathi Institute of Technology  
Hyderabad-500 075

# CHAITANYA BHARATHI INSTITUTE TECHNOLOGY (A)



## CERTIFICATE

Certified that this project report, "UP-DOWN COUNTER USING LAB VIEW," is the bonafide work of **SRIRAM SAI REDDY (160116735173)**, **SATHISH KOMIRE (160116735170)**, **VISHWA SOURAB (160116735180)** who carried out the project work under my supervision using National Instruments LabVIEW.



Signature

**Sri. G. Mallikharjuna Rao**

**Assistant Professor**

Signature



**Dr. D. Krishna Reddy**

**Head, Dept. of ECE**

**HEAD**

**DEPARTMENT OF ECE**

Chaitanya Bharathi Institute of Technology  
Hyderabad-500 075

**CHAITANYA BHARATHI INSTITUTE TECHNOLOGY (A)**



**CERTIFICATE**

Certified that this project report, "IMPLEMENTATION OF (12,8) HAMMING CODE," is the bonafide work of **P.SRUJAN (160116735174), SUMANTH NAIDU (160116735175), SYED JAWAD MOHIUDDIN(160116735176)** who carried out the project work under my supervision using National Instruments LabVIEW.



Signature

**Sri. G. Mallikharjuna Rao**

**Assistant Professor**

Signature



**Dr. D. Krishna Reddy**

**Head, Dept. of ECE**

HEAD  
DEPARTMENT OF ECE  
Chaitanya Bharathi Institute of Technology  
Hyderabad-500 075

# CHAITANYA BHARATHI INSTITUTE TECHNOLOGY (A)



## CERTIFICATE

Certified that this project report, " DATA TRNSMISSION WITH PRIORITY BASED ON DUAL PRIORITY LOGIC USING LAB VIEW," is the bonafide work of **K.VEDA VYAS (160116735178)**, **CH.A. VINASH TEJA (160116735327)**, **B.KIRAN KUMAR (160116735331)** who carried out the project work under my supervision using National Instruments LabVIEW.

Signature

**Sri. G. Mallikharjuna Rao**

**Assistant Professor**

Signature

**Dr. D.Krishna Reddy**

**Head, Dept. of ECE**

HEAD  
DEPARTMENT OF ECE  
Chaitanya Bharathi Institute of Technology  
Hyderabad-500 075

# CHAITANYA BHARATHI INSTITUTE TECHNOLOGY (A)



## CERTIFICATE

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Signature

**Sri. G. Mallikharjuna Rao**

**Assistant Professor**

Signature

**Dr. D.Krishna Reddy**

**Head, Dept. of ECE**

HEAD  
DEPARTMENT OF ECE  
Chaitanya Bharathi Institute of Technology  
Hyderabad-500 075



## MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding (“MOU”), effective upon the date of execution by the last party to sign is entered into by and between **AMD Research & Development Center India Private Limited (“AMD India”)**, having a place of business at Raheja Mindspace, Building No.: 11, 8<sup>th</sup> Floor, APIIC Software layout, Madhapur, Hyderabad – 500081 and the academic institute identified: **Chaitanya Bharathi Institute of Technology, Autonomous under UGC (“CBIT”)**, referred to as “Academic Entity”, with a place of business at Chaitanya Bharathi (Post), Gandipet, Hyderabad- 500075.

### **I. Introduction**

#### **About AMD**

Advanced Micro Devices, Inc. (AMD) was incorporated under the laws of Delaware on May 1, 1969 and became a publicly held company in 1972. Our common stock is currently listed on The NASDAQ Capital Market (NASDAQ) under the symbol “AMD”. AMD is a global semiconductor company primarily offering x86 microprocessors, as standalone devices or as incorporated into an accelerated processing unit (APU), chipsets, discrete graphics processing units (GPUs) and professional graphics; and server and embedded processors and semi-custom System-on-Chip (SoC) products and technology for game consoles. We also license portions of our intellectual property portfolio.

AMD globally employs University Relations (UR) as unique strategic lever to build the young innovative and diverse talent pipeline, thereby extending support to the academic institutions to harness the budding engineering talent, and groom them for the industry.

AMD India UR & Branding Strategy is comprised of four initiatives, focused on collaboration between AMD and the Academic Entity: Research, Relations, Recruitment of Co-Ops, and Recruitment of NCGs.

#### **About Academic Entity**

##### **CBIT**

CBIT is one of the Premier Engineering Colleges for imparting Engineering education. This is the first Engineering College in private sector, established in 1979 and has produced more than 20,000 successful engineers in all walks of life including entrepreneurs, academicians and research engineers etc. The Institute has good infrastructural facilities and has highly qualified and experienced faculty with research background.

This MOU focuses on the mutually beneficial collaboration between the two parties, thus ensuring exploration and harnessing the Research and Relations initiatives of the AMD India UR & Branding Strategy.

### **II. Objectives and Terms of Collaboration**

AMD India wishes for talented students in India pursuing technical degrees to be aware of AMD and for AMD India to encourage their studies.

The Academic Entity shall nominate 5 to 10 projects separately for BTech/MTech streams that meet the following criteria:

1. The student should be pursuing an undergrad (B Tech) or Masters (M Tech) degree.
2. The project should be part of their final semester or thesis work.
3. The project must be an original project or concept.
4. The project must be related to AMD’s business.



AMD India's leadership team will, in its sole discretion, choose from the nominations the winner of the award based on the quality of the project and the relationship of the subject matter of the project to AMD's business goals at the time. If AMD India's leadership does not believe in their sole discretion if any of the nominations do not sufficiently meet the criteria and therefore do not merit granting the award, AMD India may choose not to have an award recipient.

The award recipient will receive the title of "Award for Best Project selected by AMD Leadership" and INR 25K. If more than one student is the creator or author of the project, then the award amount of INR 25K will be equally split among the students, unless AMD in its sole discretion chooses to provide the students, in aggregate, with a larger award. AMD India may determine at any time, in its sole discretion, to increase or decrease the award amount and/or provide any additional recognition, such as a certificate. Whether any additional recognition was provided in one year will not require AMD India to provide the same or similar recognition in a following year.

### III. Liability

Each party takes reasonable care and precaution in fulfilling the spirit of this MOU. No other liabilities are applicable.

### IV. Term and Termination

This MOU shall last for an initial period of two (2) years from the Effective Date ("Initial Period") unless extending in a writing signed by both parties three (3) months prior to the date of expiration. Either party is free to withdraw at any time during the Initial Period with prior written notice to the other party of its intention to withdraw. During the remainder of the Initial Period, the parties will endeavor to address and correct the concerns of the party who wishes to withdraw. If those efforts are not successful, this MOU will terminate when the three (3) month notice period expires.

### V. Amendments

Amendments to this MOU may be proposed by either party and shall become effective only if agreed to in writing by both parties.

### VI. General

- This MOU is and will be available for disclosure to the general public.
- This MOU is an agreement between both parties and does not create or confer any right or benefit on any other person or party, private or public.
- The parties are and shall remain independent contractors and nothing herein shall be construed to create a partnership, agency, joint venture, or teaming agreement between the parties. Nothing herein shall be construed as implying that either party's employees are employees of the other.
- A determination that any term of this MOU is invalid for any reason shall not affect the validity of the remaining terms of the MOU.
- This MOU constitutes the entire agreement between the parties and supersedes all prior agreements and understandings, whether oral or written.

Agreed to:

For AMD R&D Center India Private Limited

By:



Name: Dr. P. Kiranmai Dutt

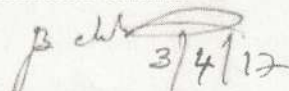
Designation: CVP, HR

Email: Kiranmai.pendyala@amd.com

Date: 03/04/17

For Academic Institute

By:



Name: Dr. B. Chennakesava Rao

Designation: Principal

Email: principal@cbit.ac.in

Date:

03/04/17

**PRINCIPAL**

**Chaitanya Bharathi Institute of Technology  
HYDERABAD - 500 075**



**AMD India Private Limited**  
MindSpace Cyberabad, TSIC Software Layout  
8th-11th Floor, Building No: 11  
Madhapur, Hyderabad - 500081  
Tel: +91 40 4061 5000  
Fax: 91 40 40615001  
CIN #U72200KA1997PTC094389

October 1, 2021

Susrutha Kilaru  
flat no 401 Karthikeya nivas, Eenadu colony  
kukatpally  
Hyderabad, telangana 500072

### **Personal and Confidential**

Dear Susrutha:

At AMD India Private Limited, ("AMD") we believe that a great company is made up of great people. In that spirit, we are pleased to extend to you this offer of employment to join our innovative company. The details of this offer are outlined below (unless otherwise specified, all monetary amounts are in India's local currency):

#### **The Position**

Your AMD job title will be that of Co-Op/ Intern, reporting to Raghu Pattipati, PMTS Silicon Design Engineer. You will be a member of our Student/ Intern/ Temp function and will work at our Hyderabad facility.

#### **Stipend / Tenure**

You will be entitled to a stipend of 25,000 **INR** per month (Inclusive all) and the tenure of Internship would be 9 months initially from your date of joining and could be extended to 12 months. Your Date of Joining is October 18, 2021. Within AMD's full and sole discretion, AMD may consider you for full-time employment at the end of your internship, based on considerations, including, but not limited, to your job performance, fit, and availability of a suitable role.

#### **Duties and Hours of Work**

Your responsibilities and duties would be intimated to you upon commencement of your employment. The Company is however permitted to assign you additional tasks, to modify or remove your assigned duties, without additional compensation to you.

The working hours shall be in accordance with the standard working hours applicable to your department or section. You also agree that AMD may transfer your work place and work assignment, as necessary for the business needs, subject to applicable law.

#### **Holidays and Leave**

You are not entitled to any leaves other than sick/casual leave (12 days annually) during the Co-Op program.

### **Benefits**

AMD will provide only those benefits as outlined in the Annexure.

### **Probation**

Under mutual agreement, you will be on probation for a period of 6 months from the date of commencement of your employment. Upon completion of the 6-month period of probation, you shall be deemed to be confirmed without any further notice from the Company. However, the Company may, at its sole discretion, and having regard to your performance during probation, extend the period of your probation by giving you notice of such extension in writing.

### **Termination**

Your employment with the Company may be terminated by either you or the Company by providing thirty (30) days prior written notice, or by payment of salary in lieu of notice. The Company reserves the right to terminate your employment summarily without notice or payment in lieu of notice, if it has reasonable grounds to believe that you are guilty of misconduct or negligence, or have committed any breach of this agreement.

### **Background Check and Export License Requirement**

This offer is contingent upon you successfully passing a background investigation in accordance with applicable laws. As lawfully permitted, this background investigation includes an investigation of previous education and previous employment history. The results of this investigation may result in employment being ended in any probationary period in accordance with applicable law.

If applicable, this offer of employment is also contingent on AMD successfully obtaining an export license for you in accordance with government regulations. Please do not resign from your employment until export control processes have been successfully completed.

### **Privacy Consent**

By accepting this offer you agree that AMD, or related parties such as its affiliates or service providers, may collect, use, transfer, store, access or disclose your personal information for the purpose of managing the employment relations in accordance with applicable law and privacy policies in place, and as amended, from time to time. You understand that your personal information may also be collected, used, transferred, stored, accessed and disclosed outside of your work location for employment purposes.

### **Obtaining and Maintaining Employment Authorization**

If applicable, this offer is contingent upon you obtaining a work permit or visa from the relevant government authorities, authorizing your employment in the country and location where this position will be located, within a reasonable amount of time. Your employment is conditional upon you being able to lawfully work in the work location and travel outside the country of your work location as reasonably required.

### **Company Policies**

During your employment, you shall adhere to the policies and procedures as laid down by the Company, including AMD's Worldwide Standards of Business Conduct, as amended from time to time by AMD. Any breach committed during the tenure of your employment, shall be governed by the policies of the Company, as amended from time to time read with applicable laws, which could attract disciplinary action and may lead to the termination of your employment.

You are required to review the policies and procedures of the Company available on the Intranet portal and in the HR Manual. You are bound by all the policies of the Company as laid down from time to time.

### **Exclusive Services**

You shall at all times during your employment, devote your entire attention, working time, best efforts and skills towards the business of the Company. You shall not, directly or indirectly, engage in any other business activity, whether or not for profit, gain or other pecuniary advantages, without the express written permission of the Company.

You shall not, without prior written permission of the Company, directly or indirectly, in any way engage in, represent,

be connected with or have any financial interest in, any business, which is or may be engaged in a similar business as that of the Company or which could compete with the Company or any of its affiliates.

**Return of Company Property**

Upon termination of your employment, for any reason whatsoever, you shall immediately return to the Company all its property that has been entrusted to you for performing your work, including but not limited to confidential or proprietary information and all copies thereof, that is / are in your possession, custody or control.

**Choice of Law**

This Agreement is to be governed and construed by the laws of India.

**AMD Agreement and Acknowledgements**

This offer is contingent upon your signing and returning this offer letter, the AMD Agreement and completing all new employee orientation requirements. By signing this letter, you acknowledge that you are not aware of any legal or contractual reason you cannot accept employment with or perform work for AMD. You acknowledge that the terms in this letter accurately and completely describe your employment with AMD, and supersede any other oral or written agreements or promises made to you. You also acknowledge that all information contained in this offer and related offer documents, is strictly confidential where permitted by law. If the terms of this offer are acceptable to you, please initial each page, sign your name below and return the original signed and dated document to S Deepak Kumar. This offer will remain open until October 7, 2021. If you have any questions, please feel free to contact me.

Welcome to AMD, Susrutha! We look forward to having you as a part of the team.

For AMD India Private Limited, ("AMD"),  
Authorized Signatory

DocuSigned by:  
*Farouk Fathima*  
01-Oct-21 | 1:21:18 AM PDT

Fathima Farouk  
Director HR Business Partner  
AMD

Prepared by: S Deepak Kumar

I, Susrutha Kilaru, have read and understood the terms and conditions governing my services/ employment with the company.

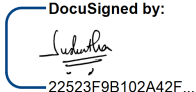
Signature \_\_\_\_\_  
DocuSigned by:  
*Susrutha*  
22523F9B102A42F...

Date \_\_\_\_\_  
02-Oct-21 | 11:22:29 AM PDT

### Letter of Authorization

To whom it may concern

I hereby authorize AMD and their agents to verify information provided in my resume and application of employment, and to conduct enquiries as may be necessary, at the company's discretion. I authorize all persons who may have information relevant to this enquiry to disclose it to AMD. I release all persons from liability on account of such disclosure. I am willing that a photocopy of this authorization be accepted with the same authority as the original.

Signed :   
Name in Block Capitals : SUSRUTHA REDDY KILARU  
Date of Birth : 22/03/97 (dd/mm/yy)  
Identity Card Number :  
Date : 02-Oct-21 | 11:22:29 AM PDT

Manager Level or higher Position

Non-Manager Position





## **Memorandum of Understanding**

for

### **Establishing Marine Navigation and Communication Research Centre (MNCRC) for Research and Development Activities**

between

#### **Chaitanya Bharathi Institute of Technology**

(Autonomous Institution)

Chaitanya Bharathi (Post), Gandipet,  
Hyderabad - 500 075, Telangana, India

[www.cbit.ac.in](http://www.cbit.ac.in)

and

#### **Jawaharlal Nehru Technological University**

**Kakinada**

Kakinada-533 003, Andhra Pradesh, India

[www.jntuk.edu.in](http://www.jntuk.edu.in)



## **Memorandum of Understanding**

for

Establishing Marine Navigation and  
Communication Research Centre (MNCRC) for  
Research and Development Activities

between

**Chaitanya Bharathi Institute of Technology**

(Autonomous Institution)

Chaitanya Bharathi (Post), Gandipet, Hyderabad - 500 075,  
Telangana, India  
[www.cbit.ac.in](http://www.cbit.ac.in)

and

**Jawaharlal Nehru Technological University**

**Kakinada**

Kakinada - 533 003, Andhra Pradesh, India  
[www.jntuk.edu.in](http://www.jntuk.edu.in)

This MOU is entered into on the 31<sup>st</sup> day of March, 2017

**BETWEEN**

Chaitanya Bharathi Institute of Technology (A), Chaitanya Bharathi (Post), Gandipet,  
Hyderabad- 500075, Telangana, India

**AND**

Jawaharlal Nehru Technological University, Kakinada, Kakinada-533003, Andhra Pradesh,  
India

**1.0 Preamble**

WHEREAS Chaitanya Bharathi Institute of Technology (A) (hereinafter referred to as "CBIT" which expression shall where the context so admits include its successors and permitted assignees) of the one part and Jawaharlal Nehru Technological University, Kakinada, Kakinada (hereinafter referred to as "JNTUK" which expression shall where the context so admits include its successors and permitted assignees) of the other part; both Parties enter into this MOU to collaborate their efforts to establish and develop a 'Marine Navigation and Communication Research Centre', Academic Exchange and Co-Operation in Teaching, Training, Research and Development in areas with the following details.

1. To collaborate in establishing "**Marine Navigation and Communication Research Centre**" within the premises of JNTUK
2. To jointly promote Research and Development activities especially in the area of "**Marine Navigation and Communication**".
3. To promote exchange of information/data and materials of mutual interest.
4. To promote and facilitate the exchange of research and teaching staff as well as students
5. To organize international conferences, workshops and symposiums
6. Other forms of co-operation which is to be arranged jointly by both Parties
7. With mutual consent, the other constituent colleges of JNTUK may also participate in the programs undertaken under this MoU

**BOTH PARTIES** mutually agree to the following:

**2.0 Effective Date and Duration of MoU**

This MoU is effective from the date of its signing and is valid for a duration 3 (Three) years from the date of signing. It may be extended further in writing based on mutual consent.



### **3.0 Scope of MoU**

Establishment and operationalization of Marine Navigation and Communication Research Centre (MNCRC) and apply and execute collaborative research projects on mutually interested topics. Depending upon the need and mutual convenience certain experiments can be planned and executed within overall MoU umbrella. Also, work towards establishing data link between 'Hope Island' and mainland is to be carried out.

### **4.0 Methodology**

- 4.1. Identification of suitable space for establishing the research Centre at JNTUK.
- 4.2. Providing the basic infrastructure facilities in the Centre such as, uninterrupted internet service, Office tables and chairs, Desktops, etc. at JNTUK
- 4.3. Initiating research projects in the area of mutual interest to work in the Centre.
- 4.4. Planning training programs / short courses / workshops / conferences / symposiums involving experts from both institutions and also from outside.

### **5.0 Deliverables**

As such no strict deadlines for achieving the objectives are mentioned in the earlier sections. However, a reasonable and visible progress is expected in the first 3 years.

### **6.0 Technical specifications**

The participating institutions are required to extend the technical facilities such as library, computation systems, internet as and when the faculty / staff / students visit the other institution. As and when any equipment is installed, the maintenance, operation and data acquisition are the responsibilities of the host institution.

### **7.0 Applicable documents**

Any material relevant to the implementation of objectives will be shared by both institutions.

### **8.0 Guidelines on Data Usage**

Data security is not a major concern. The detailed guidelines for any acquired data use appear in **IPR** section.

### **9.0 Responsibility of Each Party**

CBIT and JNTUK shall jointly work towards fulfilling the objectives mentioned in this MoU.

In addition, following are the specific responsibilities.

### **9.1. CBIT**

- 9.1.1 CBIT will propose planning of setup of equipment and infrastructure for the research center at JNTUK.
- 9.1.2 Initiation for proposing new projects will be carried out by CBIT and JNTUK.
- 9.1.3 Initiation for organizing the joint training programs will be carried out by CBIT.
- 9.1.4 CBIT will work out the modalities of Data collection, data sharing etc.
- 9.1.5 Data reception, processing, archival to be done jointly by CBIT and JNTUK.

### **9.2. JNTUK**

- 9.2.1 JNTUK will provide necessary space (approximately 600 sq.ft.) along with infrastructure facilities for the centre and same will remain the property of JNTUK.
- 9.2.2 All the logistics support required for setting up of centre will be provided by JNTUK.
- 9.2.3 JNTUK will provide secretarial assistance on need basis.
- 9.2.4 JNTUK will provide all the necessary facilities for organizing any training programs etc.

### **9.3. Collaborative Projects**

In collaborative projects, the equipment and other items procured under that project belong to the institution to which principal investigator belongs unless and otherwise, it is specifically mentioned in a different way in the project proposal.

## **10.0 Project schedule**

- 10.1. Selection of suitable site for establishing MNCRC within one month from the date of signing MoU
- 10.2. Applying of a research project within 6 months after establishing the Centre.
- 10.3. Organizing a training program within 1 year after the obtaining the project from a sponsorer.

## **11.0 Training**

As such no formal training is required. However, informal training can be imparted by experts from both JNTUK and CBIT.

## **12.0 Project Monitoring**

- 12.1. JNTUK and CBIT shall identify focal person(s) who shall be responsible for organizational matters and interacting for day to day operation, such as functioning of newly established Centre, further improvements etc.
- 12.2. Each party shall pursue its own research that involves data from the equipment installed, with mutual consultation.
- 12.3. A periodic (Quarterly) status report should be generated jointly by CBIT and JNTUK regarding the MNCRC.

## **13.0 Implementation**

Both Parties shall strive for establishing MNCRC at JNTUK and exchange in research, teaching and training programs whenever the opportunity arises.

## **14.0 Laws and Regulation**

This MOU is subjected to the laws and regulations of their respective states.

## **15.0 Financial Arrangements**

- 15.1. All expenses including salary, travel, living and varied costs and expenses shall be borne by their respective parent institution, unless the parties agree otherwise.
- 15.2. Any profit arising from this MOU shall be distributed between both parties, the quantum of which shall be determined by both the parties.

## **16.0 Functionaries**

Prof. A.D. Sarma, Prof. N.V. Koteswara Rao and Prof. D. Krishna Reddy  
(Authorized representatives - CBIT TEAM)

Prof. A.M. Prasad, Dr. B. Leela Kumari and Dr. T. S. N. Murthy  
(Authorized representatives - JNTUK TEAM)

## **17.0 Confidentiality**

- 17.1. The parties to MoU will maintain utmost confidentiality in sharing data.
- 17.2. During the tenure of MoU and thereafter both parties undertake on their behalf and on behalf of their employees / representatives to maintain strict confidentiality and prevent disclosure thereof of all the information and data

exchanged/generated pertaining to this agreement. However, the data may be published and shared jointly for scientific publication after mutual consent in writing.

- 17.3. Both Parties undertake to observe confidentiality towards other parties not concerned or connected with this MOU. Any confidential information disclosed to either party pursuant to this MOU shall not without prior written consent of the other Party be disclosed to a third Party or be used for any purpose not expressly permitted in writing by the other Party.
- 17.4. The confidentiality provisions apply to all confidential information exchanged including any confidential information exchanged in preliminary discussions and during negotiations relating to matters within the scope of this MOU.
- 17.5. For purposes of this MOU, "confidential information" includes all technical know-how, financial information and other commercially valuable information in whatever form including unpatented inventions, trade secrets formulas, graphs, drawings, designs, tables, flow charts, process charts, biological materials, samples, devices, models and other materials of whatever description which the disclosing Party claims is confidential to itself and over which it has full control and include all other such information that may be in the possession of the disclosing party's employees or management.

## **18.0 Intellectual Property Rights**

Both Parties shall abide by the laws and regulations on intellectual property rights of their respective states and institutions.

All the research results and foreground information as well as foreground Intellectual Property Rights, generated out of or involving the data, its derivative or information thereof, from the systems and sites established as per terms of this MoU whether or not legally protected, shall be owned by both JNTUK and CBIT and will be free to use such data for their internal R&D purposes with intimation to each other.

JNTUK / CBIT will not disclose any research result and foreground information, generated out of or involving the data, its derivative or information thereof from the systems established as per terms of this MoU to any third party without seeking prior written permission.

Notwithstanding any provisions mentioned above or any future licensing agreements, both parties shall be deemed to have all rights including non-exclusive, irrecoverable and royalty-free license for the unlimited development and use of any and all foreground information and

foreground Intellectual Property Rights, generated out of or involving the data, its derivative or information thereof, from the systems established (at given site) as per terms of this MoU, whether or not legally protected, for the purposes of its own applications.

### **19.0 Changes in Scope of Work**

Any change in scope of work would be with mutual consent of both the parties in writing.

### **20.0 Modifications to MoU**

- 21.1. Any amendment or modifications of this MOU shall be in writing by both the parties.
- 21.2. The modifications/changes shall be effective from the date on which they are made/ executed, unless otherwise agreed to.

### **21.0 Force Majeure**

Neither party shall be held responsible for non-fulfillment of their respective obligation under this MoU due to circumstances beyond their control but not limited to war, flood, cyclones, riots, strikes etc. If such condition continues beyond six months, the parties shall then mutually decide about the future course of action. Either party shall intimate each other of any such event.

### **22.0 Indemnity**

Both parties shall exercise reasonable skill, care and diligence in the performance of this MoU activity and indemnify and keep indemnified each other party in respect of any loss, damage or claim howsoever arising out breach of MoU terms, statutory duty or negligence by either of the parties or its employees, agents or subcontractors in relation to the performance or otherwise of the services to be provided under this MoU.

### **23.0 Termination of MoU**

- 23.1. During the validity of the MoU, each party is free to dismantle the systems established as per terms of this MoU with intimation to other party.
- 23.2. Similarly, if JNTUK considers it necessary to dismantle the Centre established as per terms of this MoU for unavoidable reason at a given site, JNTUK will try to provide an alternate site to relocate the Centre. If however, JNTUK fails in providing such alternate, CBIT will be free to withdraw from MoU.

## 24.0 Arbitration

In the event of any dispute or difference between the parties hereto, such disputes or differences shall be resolved amicably jointly by <sup>Principal, UCEK</sup> Registrar, JNTUK and Principal, CBIT.

## 25.0 Jurisdiction

Hyderabad shall be the jurisdiction.

In witness whereof, the parties hereto have signed this MOU on the 31<sup>st</sup> of March 2017

*WM 31/3/17*  
G.V.R. Prasada Raju  
Principal, UCEK

Jawaharlal Nehru Technological  
University, Kakinada

Kakinada - 533 003  
PRINCIPAL  
University College of Engineering, Kakinada,  
JNTUK Kakinada-533 003

In the Presence of

Witness

1. *A. m. prasad*
2. *K. padmalay*



*B. Chenna Rao 31/3/17*  
(Dr. B. Chennakesava Rao)  
Principal

Chaitanya Bharathi Institute of  
Technology (CBIT) (A)

Hyderabad - 500 075

PRINCIPAL

Chaitanya Bharathi Institute  
of Technology

Witness GANDIPET, R. R. (Dist.)  
HYDERABAD - 500 075

1. *A. m. prasad*
2. *N. V. kote*





# Chaitanya Bharathi Institute of Technology (A)

(Affiliated to Osmania University)

**Prof.A.D.Sarma**  
**Director R & D, CBIT**

28 August 2018

To:  
The Head of the Department,  
Department of ECE,  
JNTUK, University college of Engineering,  
Vizianagaram.

**Dear Sir,**

**Sub:** R&D Center – CBIT – Acceptance towards the request in Supervising M.Tech student from JNTU, Vizianagaram –Reg.

With reference to letter dated on 18.08.2018, M.Tech student from JNTU, Vizianagaram **Mr. P. Yugandhara Rao** bearing Roll No. 17VV1D4510 is permitted to carry out his III & IV Semesters project work at CBIT, Hyderabad under the supervision of **Dr. A.D. Sarma**, Director R&D, Professor Dept. of ECE, CBIT. However, as there is no provision for providing accommodation, the student has to make his own arrangements.

Regards

Sincerely,

Prof.A.D.Sarma, Ph.D(Engg.)(London. UK)  
Director (R&D), CBIT  
Former Director Research and Training Unit for Navigational Electronics  
Osmania University Hyderabad.  
Email: ad\_sarma@yahoo.com Cell 9440934242 / 9866661057

Grams: "TECHNOLOGY"



Phones: Off: 08922-274388

Mobile: 91-8374033688

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA**  
**UNIVERSITY COLLEGE OF ENGINEERING**  
**VIZIANAGARAM-535 003, Andhra Pradesh (India)**  
**DEPARTMENT OF ELECTRONICS & COMMUNICATIONS ENGINEERING**

Dr. K.C.B.Rao

Dt: 18-08-2018

ME., Ph. D

Professor of ECE & Head of the Department

To  
The  
Director of R&D Center,  
CBIT, Hyderabad,

Dear Sir,

Sub: - JNTUK – University College of Engineering, Vizianagaram- III & IV  
Semesters M.Tech Student Project Work permission – Request – Reg.

\*\*\*

The following M.Tech student of Electronics & Communication Engineering (system & Signal Processing) branch of the college is interested to carry out her III & IV Semesters Project work in your Organization.

S.No	Name of the student	Roll No	Year	Semester	Branch
1	P.Yugandhara Rao	17VV1D4510	II	III & IV	SSP

It is requested to accord permission to the above student to fulfill the requirement of academic course and complete her Project work under the guidance of your staff and to provide accommodation for the above period.

Kindly intimate the acceptance at an early date to enable the student to attend and carryout her Project Work.

Yours faithfully

Head of the Department  
**Head of the Department**  
**Department of ECE**  
JNTUK, University College of Engineering  
Vizianagaram.





# Chaitanya Bharathi Institute of Technology (A)

(Affiliated to Osmania University)

**Prof.A.D.Sarma**  
Ph.D. (Engg.)(London,U.K.)  
**Director R & D, CBIT**

01 October 2018

Dear Prof. Padmapriya

Thank you for your email. Ms. Ch N Sai Ravali is welcome to work and contribute on the technical topics related to the following ongoing Indian Space Research Organisation (ISRO) projects at our institute. Her contribution can become a part of her M.E. thesis during the course period (13 Aug 2018 to 31 Aug 2019).

S. No.	Title of the project	Sponsoring agency	Principal Investigator
1.	A local short term model for forecasting ionospheric scintillations for GNSS applications over Indian region	ISRO RESPOND programme Bangalore	Dr. A.D. Sarma
2.	Investigation of the effects of Ionospheric spatial decorrelation on Indian GBAS	SAC, ISRO, Ahmedabad	Dr. A. Supraja Reddy

Hope she will join and make a significant contribution benefiting to both our institutions

Regards

Sincerely,

(Prof.A.D.Sarma)  
**Dr. A.D. Sarma**  
Ph.D.(Engg.)(London, U.K.)  
Professor, Dept. of ECE  
CBIT, Hyderabad-500 075

# Memorandum of Understanding

**For**

IRNSS Navigation Receiver Field Trial and Data Collection

**Between**

Space Applications Centre  
Indian Space Research Organization  
Department of Space, Government of India  
Ahmedabad – 380015

**And**

Chaitanya Bharathi Institute of Technology (A)  
(Affiliated to Osmania University)  
Chaitanya Bharathi (Post), Gandipet,  
Hyderabad- 500075. India

*Ans*

*IPS*

This MOU is entered into on 7 day of DEC, 2015

BETWEEN

Space Applications Centre, Jodhpur Tekra, Ambawadi Vistar P.O., Ahmedabad, 380015, a centre of Indian Space Research Organization, Department of Space, Government Of India (hereinafter called "SAC" which expression shall where the context so admits include its successors and permitted assignees) of the one part,

AND

Chaitanya Bharathi Institute of Technology (A) (Affiliated to Osmania University) Accredited by NBA (AICTE) and NAAC (UGC), an ISO 9001-2008 Certified Institution, Chaitanya Bharathi (Post), Gandipet, Hyderabad- 500075. India.

#### 1.0 Preamble:

Whereas, Space Applications Centre (hereinafter referred to as "SAC" which expression shall where the context so admits include its successors and permitted assignees) of the one part and Chaitanya Bharathi Institute of Technology (A) (hereinafter referred to as "CBIT" which expression shall where the context so admits include its successors and permitted assignees) of the one part CBIT, both are parties to this MoU;

Whereas, SAC is involved in design and development of space-borne instruments for ISRO missions and development and operationalization of applications of space technology for national development. The applications cover communication, broadcasting, navigation, disaster monitoring, meteorology, oceanography, environment monitoring and natural resources survey. SAC designs and develops all the transponders for the INSAT and GSAT series of communication satellites and the optical and microwave sensors for IRS series of remote sensing satellites, Navigation payloads for IRNSS and GAGAN programme. Further, SAC develops the ground transmit/receive systems (earth stations/ ground terminals) and data/image processing systems;

Ans

Ans

Whereas,

CBIT is one of the Premier Engineering Colleges for imparting Engineering education. This is the first Engineering College in private sector, established in 1979 and has produced more than 20,000 successful engineers in all walks of life including entrepreneurs, academicians and research engineers etc. The Institute has good infrastructural facilities and has highly qualified and experienced faculty with research background.

## **2.0 Effective Date and Duration of MoU:**

This MoU is effective from the date of its signing and is valid for a duration 2 (Two) years from the date of signing. It may be extended further in writing based on mutual consent.

## **3.0 Scope of MoU:**

Scope of the MoU involves Site identification, site preparation, and Installation of the IRNSS receiver. IRNSS Navigation Data collection and analysis to be carried out on regular basis for verification and for other mutually agreed topics of research for both parties. Depending upon the requirement certain scientific experiments can be planned and executed within overall MoU umbrella. With mutual consent, both the Parties can extend the period of data collection and observation locations (sites).

## **4.0 Methodology:**

4.1 Suitable Site Selection

4.2 Installation and commissioning of IRNSS Receiver

4.3 Continuous IRNSS and GPS data logging, analysis of the data

4.4 Transmission of IRNSS and GPS data to SAC as and when demanded by SAC

Data transmission mechanism can be mutually worked out.

## **5.0 Deliverables:**

5.1 SAC deliverables { i, ii & iii through ACCORD Software & Systems Ltd }

And

API

- i. IRNSS receiver and data processing systems as detailed in Annexure-1. (Delivery @ site)
- ii. Number of receiver units allocated as per SAC receiver Allocation committee's recommendation in view of your response to EOI for IRNSS Receiver deployment
- iii. User and operations manual (Delivery @ site)
- iv. Format for Quarterly (Every Three months) status report

## 5.2 CBIT deliverables

- i. All necessary logistics so that IRNSS Receiver shall be established to collect positional data in raw and RINEX format received from IRNSS, GPS constellation with 1 sec update rate
- ii. Send a Quarterly status Report on usage/performance of receiver to SAC in a prescribed format.
- iii. Send the Receiver data to SAC as and when asked for

## 6.0 Guidelines on Receiver / Data Usage:

The data is to be used strictly for internal research purpose only. The Receiver is for experimentation and field trial only and should not be used for any operational purpose. IRNSS constellation is evolving and has not been declared operational for Position Navigation and Time. So the results/performance of IRNSS should be viewed in that context.

## 7.0 Responsibility of Each Party:

SAC and CBIT shall jointly work towards IRNSS system verification using data collected from IRNSS receivers. In addition, following are the specific responsibilities.

### 7.1 CBIT:

- 7.1.1 All the logistics support, site identification, site preparation, required for setting up of IRNSS Receiver will be provided by CBIT.
- 7.1.2 Installation of the IRNSS Receiver at the site will be carried out by ACCORD SYSTEMS
- 7.1.3 Utmost care to be taken in handling the IRNSS Receiver.
- 7.1.4 Send the Receiver Data to SAC when asked for
- 7.1.5 Safety and security of the IRNSS Receiver
- 7.1.6 IRNSS data reception, processing, archival to be done by CBIT.

*Ans*

*Ans*

- i. IRNSS receiver and data processing systems as detailed in Annexure-1. (Delivery @ site)
- ii. Number of receiver units allocated as per SAC receiver Allocation committee's recommendation in view of your response to EOI for IRNSS Receiver deployment
- iii. User and operations manual (Delivery @ site)
- iv. Format for Quarterly (Every Three months) status report

## 5.2 CBIT deliverables

- i. All necessary logistics so that IRNSS Receiver shall be established to collect positional data in raw and RINEX format received from IRNSS, GPS constellation with 1 sec update rate
- ii. Send a Quarterly status Report on usage/performance of receiver to SAC in a prescribed format.
- iii. Send the Receiver data to SAC as and when asked for

## 6.0 Guidelines on Receiver / Data Usage:

The data is to be used strictly for internal research purpose only. The Receiver is for experimentation and field trial only and should not be used for any operational purpose. IRNSS constellation is evolving and has not been declared operational for Position Navigation and Time. So the results/performance of IRNSS should be viewed in that context.

## 7.0 Responsibility of Each Party:

SAC and CBIT shall jointly work towards IRNSS system verification using data collected from IRNSS receivers. In addition, following are the specific responsibilities.

### 7.1 CBIT:

- 7.1.1 All the logistics support, site identification, site preparation, required for setting up of IRNSS Receiver will be provided by CBIT.
- 7.1.2 Installation of the IRNSS Receiver at the site will be carried out by ACCORD SYSTEMS
- 7.1.3 Utmost care to be taken in handling the IRNSS Receiver.
- 7.1.4 Send the Receiver Data to SAC when asked for
- 7.1.5 Safety and security of the IRNSS Receiver
- 7.1.6 IRNSS data reception, processing, archival to be done by CBIT.

*Ans*

*Ans*

## 7.2 SAC:

- 7.2.1 SAC will provide IRNSS Receiver Unit(s) and Receiver operation manual(s) on returnable basis (As detailed in Annexure-1)
- 7.2.2 SAC will provide technical assistance to CBIT in working out modalities of Data collection, data sharing, etc.
- 7.2.3 SAC will provide technical assistance to CBIT in proper operation and maintenance of IRNSS Receiver
- 7.2.4 SAC will provide technical assistance to CBIT in identifying appropriate research areas considering capabilities of this Receiver

## 8.0 Project schedule:

- 8.1 Selection of Suitable Site(s) within 10 days from the date of signing MoU by CBIT
- 8.2 Installation and Commissioning of IRNSS Receiver by M/S ACCORD.
- 8.3 Regular data collection and analysis will be carried out for the duration of the MoU from the date of Installation and Commissioning of IRNSS Receiver

## 9.0 Training:

M/S ACCORD will provide necessary training and guidelines for site identification, receiver operations. SAC will provide guidelines for data collection, processing and data transfer

## 10.0 Project Monitoring:

- 10.1 SAC and CBIT shall identify focal person(s) who shall be responsible for organizational matters and interfacing for day to day operation, such as functioning of IRNSS Receiver, security etc. Each party shall pursue its independent research using data from these IRNSS Receiver, with mutual consultation.
- 10.2 A periodic Quarterly status report should be generated by CBIT regarding Receiver operations. A User meet to share results, experience will be held at SAC every six months.

*Ans*

*APS*

## 11.0 Functionaries (Typically 2)

Dr.A.D.Sarma , Dr.N.V.Koteswara Rao, Smt.N.Aivelu Manga , Sri.P.Sathish  
Sri.T.Sridher (CBIT Focal persons)

ATUL P. SHUKLA, YAGINESH R. PATEL

(SAC Focal persons)

## 12.0 Confidentiality:

- 12.1** During the tenure of MoU and thereafter both parties undertake on their behalf and on behalf of their employees/representatives to maintain strict confidentiality and prevent disclosure thereof of all the information and data exchanged/generated pertaining to this agreement. However, the data may be published and shared jointly for scientific publication after mutual consent in writing.
- 12.2** CBIT will not disclose any research result and Foreground information, generated out of or involving the data, its derivative or information thereof from the IRNSS Receiver established (at given site) as per terms of this MoU to any third party without seeking prior written permission.

## 13.0 Intellectual Property Rights :

All the research results and foreground information as well as foreground Intellectual Property Rights, generated out of or involving the data, its derivative or information thereof, from IRNSS Receiver and sites established as per terms of this MoU whether or not legally protected, shall be owned by SAC. CBIT will be free to use such data for their internal R&D purposes with intimation to SAC.

Notwithstanding any provisions mentioned above or any future licensing agreements, SAC shall be deemed to have all rights including non-exclusive, irrecoverable and royalty-free license for the unlimited development and use of any and all Foreground information and Foreground Intellectual Property Rights, generated out of or involving the data, its derivative or information thereof, from the IRNSS Receiver established (at given site) as per terms of this MoU, whether or not legally protected, for the purposes of its own applications.

Ans

APS



#### **14.0 Change In Scope of Work:**

Any change in scope of work would be with mutual consent of both the parties in writing.

#### **15.0 Modifications to MoU:**

**15.1** Any amendment or modifications of this MOU shall be in writing by both parties.

**15.2** The modifications/changes shall be effective from the date on which they are made/ executed, unless otherwise agreed to.

#### **16.0 Force Majeure:**

Neither party shall be held responsible for non fulfillment of their respective obligation under this MoU due to circumstances beyond their control but not limited to war, flood, cyclones, riots, strikes etc. If such condition continues beyond six months, the parties shall then mutually decide about the future course of action. Either party shall intimate each other of any such event.

#### **17.0 Indemnity:**

CBIT shall exercise reasonable skill, care and diligence in the performance of this MoU activity and indemnify and keep indemnified SAC in respect of any loss, damage or claim howsoever arising out of related to breach of MoU, statutory duty or negligence by CBIT or its employees, agents or subcontractors in relation to the performance or otherwise of the services to be provided under this MoU.

#### **18.0 Termination of MoU:**

**18.1** During the validity of the MoU, if it is found that if the IRNSS system is not In use, misuse or due care is not taken, SAC has right to dismantle/uninstall the IRNSS Receiver established as per terms of this MoU with intimation to CBIT.

*Ad*

*APB*

**18.2** Similarly if CBIT considers it necessary to dismantle the IRNSS Receiver established as per terms of this MoU for unavoidable reason at a given site, CBIT will try to provide an alternate site for the IRNSS observations and facilitate SAC to relocate IRNSS Receiver. If however, CBIT fails in providing such alternate, SAC will be free to dismantle/uninstall and remove the IRNSS Receiver established as per terms of this MoU along with accessories.

**19.0 Arbitration:**

In the event of any dispute or difference between the parties hereto, such disputes or differences shall be resolved amicably jointly by Director, SAC and Principal, CBIT.

**20.0 Jurisdiction:** Ahmedabad shall be the jurisdiction.

In witness whereof, the parties hereto have signed this MOU on the

Tapas Mishra  
7/12/15

(Shri TAPAN MISRA)  
Director,  
Space Applications Centre (SAC),  
Ahmedabad

तपन मिश्रा / TAPAN MISRA  
निदेशक / Director  
अंतरिक्ष उपयोग केंद्र (इसरो)  
Space Applications Centre (ISRO)  
भारत सरकार / Government of India  
अहमदाबाद / Ahmedabad-380 015.

B. Chennakesava Rao  
7/12/15

(Dr. B. Chennakesava Rao)  
Principal  
Chaitanya Bharathi Institute of  
Technology (CBIT)  
Hyderabad

**PRINCIPAL**  
Chaitanya Bharathi Institute  
of Technology  
GANDIPET, R. R. (Dist.)  
HYDERABAD - 500 075

ABS

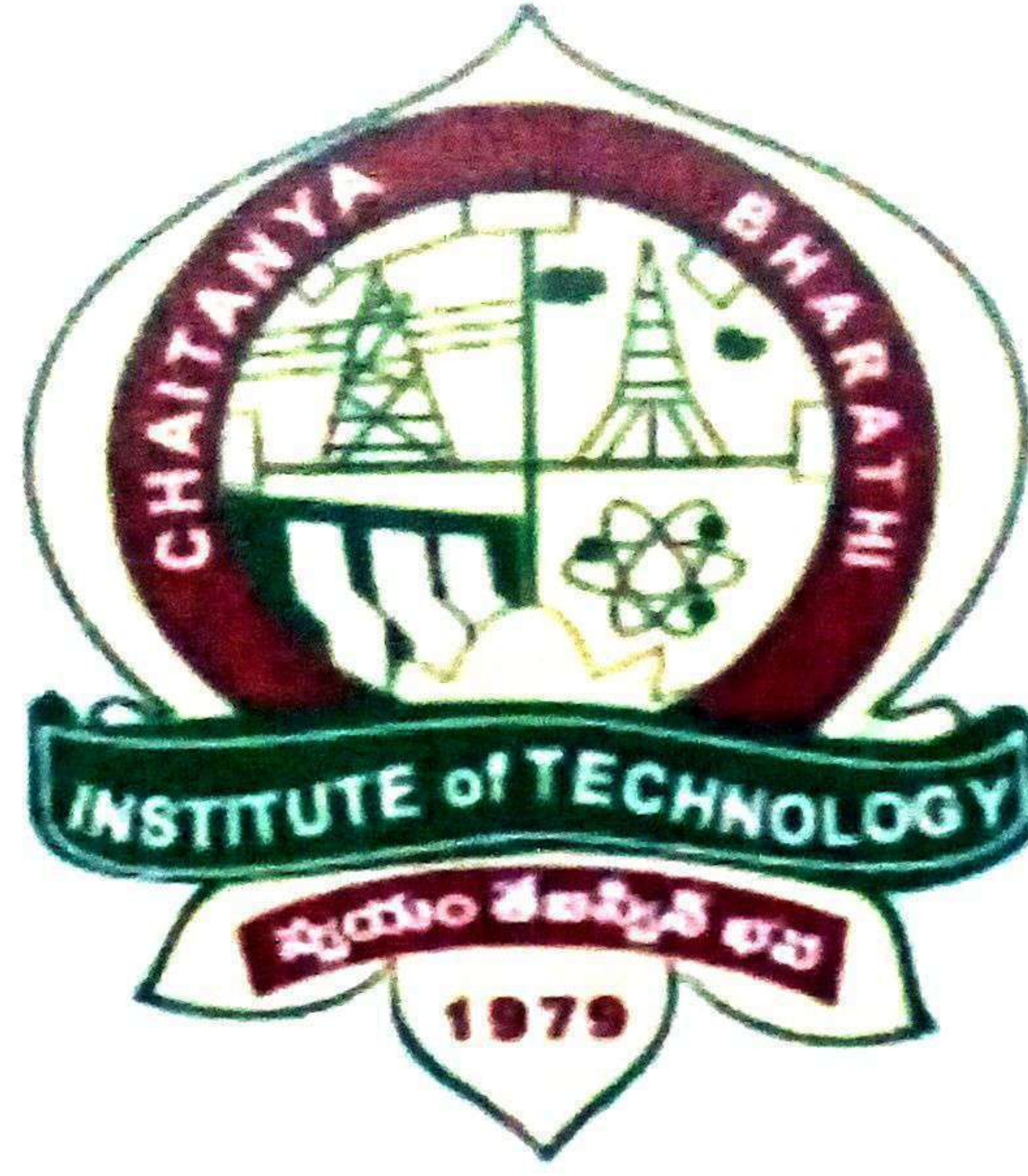
A. D. Sarma  
CDR. A. D. SARMA

**Annexure-1**  
**List of deliverables for (1 set of) IRNSS/GPS/SBAS**  
**Receiver**

Sl. No.	Item Description	Qty
1.	IRNSS/GPS/SBAS Receiver	1
2.	AC-DC Adapter	1
3.	DC-DC Adapter	1
4.	Antenna	1
5.	Antenna base plate	1
6.	Antenna mounting rod	1
7.	Battery	1
8.	Charger for battery	1
9.	TNC (M) to TNC (M), 15 m low-loss RF cable	1
10.	TNC (M) to TNC (M), 2 m low-loss RF cable	1
11.	SMA (M) to SMA (M), 2 m RF cable	2
12.	Cat5E Ethernet cable	1
13.	RS232-USB converter cable	1
14.	DC-DC adapter input cable	1
15.	DC-DC adapter output cable	1
16.	Battery to receiver power cable	1
17.	Car Cigarette connector to receiver power cable	1
18.	3 Pin AC power cable for charger	1
19.	User Guide	1
20.	CD containing GUI & other drivers	1
21.	M4 Allen key	1
22.	Adjustable Spanner	1
23.	M4 Allen screws with nuts for receiver	4
24.	M4 Allen screws with nuts for DC-DC adapter	4
25.	M4 Allen screws with nuts for antenna	4
26.	Carry Case	1

*And*

*APS*



**Department of Electronics and Communication Engineering  
Chaitanya Bharathi Institute of Technology (Autonomous)  
Hyderabad**

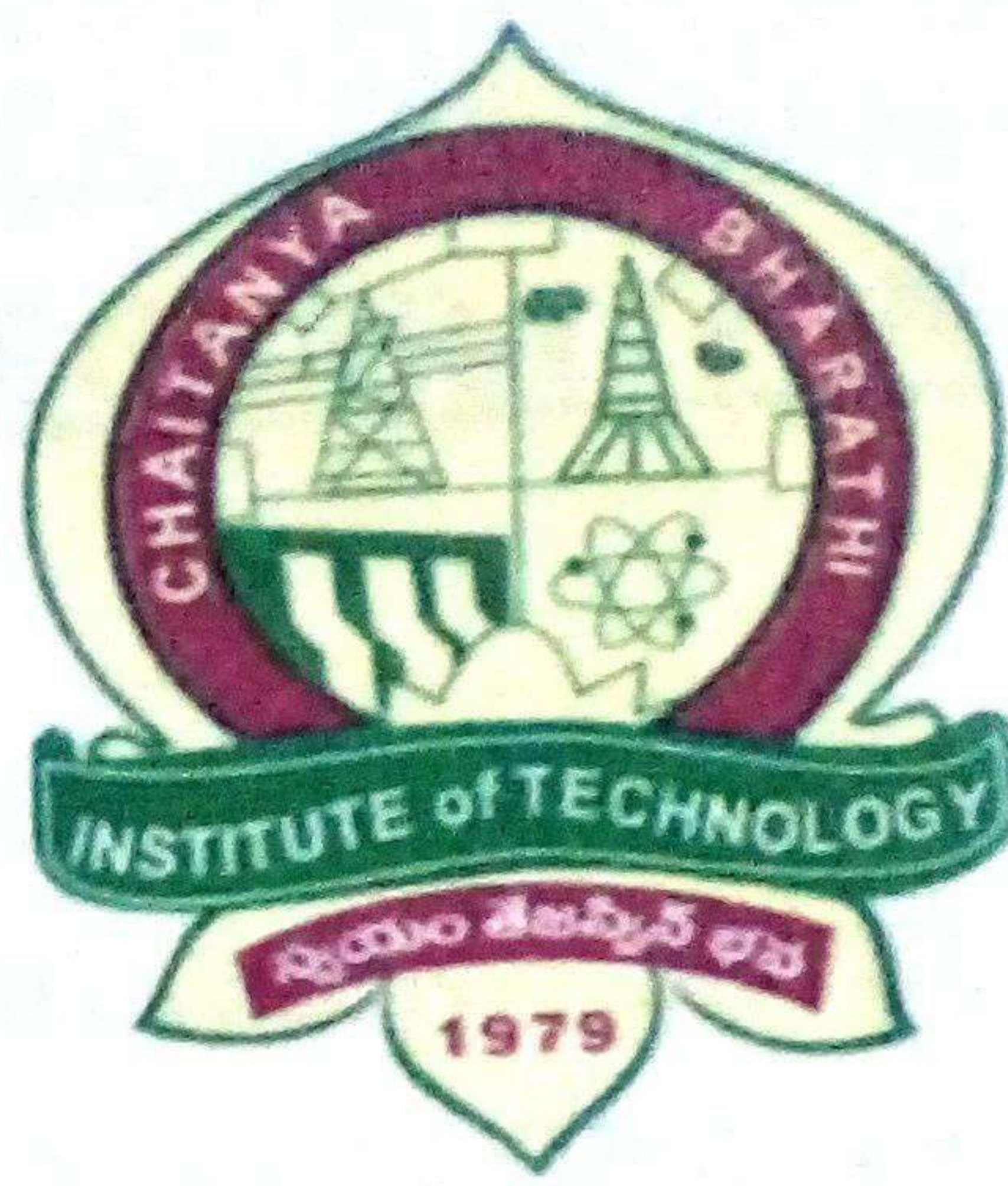
**Certificate**

This is to certify that the project work titled “Investigation of Doppler Collision Effects on IRNSS” submitted by **CH.ASHWINI** bearing Roll No. 1601-15-744-003, a student of **Department of ECE, Chaitanya Bharathi Institute of Technology**, in partial fulfillment of the requirements for award of the degree of **Master of Engineering with Communication Engineering** as specialization is a record of the bonafide work carried out by her during the academic year 2016-2017.

**Project Guide**  
Dr. D. Krishna Reddy  
Professor  
Dept. of ECE  
CBIT, Hyderabad

**Project Co-Guide**  
Sri. P. Sathish  
Assistant Professor  
Dept. of ECE  
CBIT, Hyderabad

**Head of the Department**  
Dr. N.V. Koteswara Rao  
Professor  
Dept. of ECE  
CBIT, Hyderabad



**Department of Electronics and Communication Engineering**  
**Chaitanya Bharathi Institute of Technology (Autonomous)**  
**Gandipet, Hyderabad-500075**

**CERTIFICATE**

This is to certify that the project work titled “ANALYSIS OF INDIAN REGIONAL NAVIGATION SATELLITE SYSTEM (IRNSS) GEOMETRY CONFIGURATION WITH GPS” submitted by Ms. M DIVYA bearing Roll No: 1601-13-744-409, a student of **Department of ECE, Chaitanya Bharathi Institute of Technology**, in partial fulfillment of the requirements for award of the degree of **Master of Engineering with Embedded systems & VLSI design** as specialization is a record of the bonafide work carried out by her during the academic year 2013-2015.

Guide 1

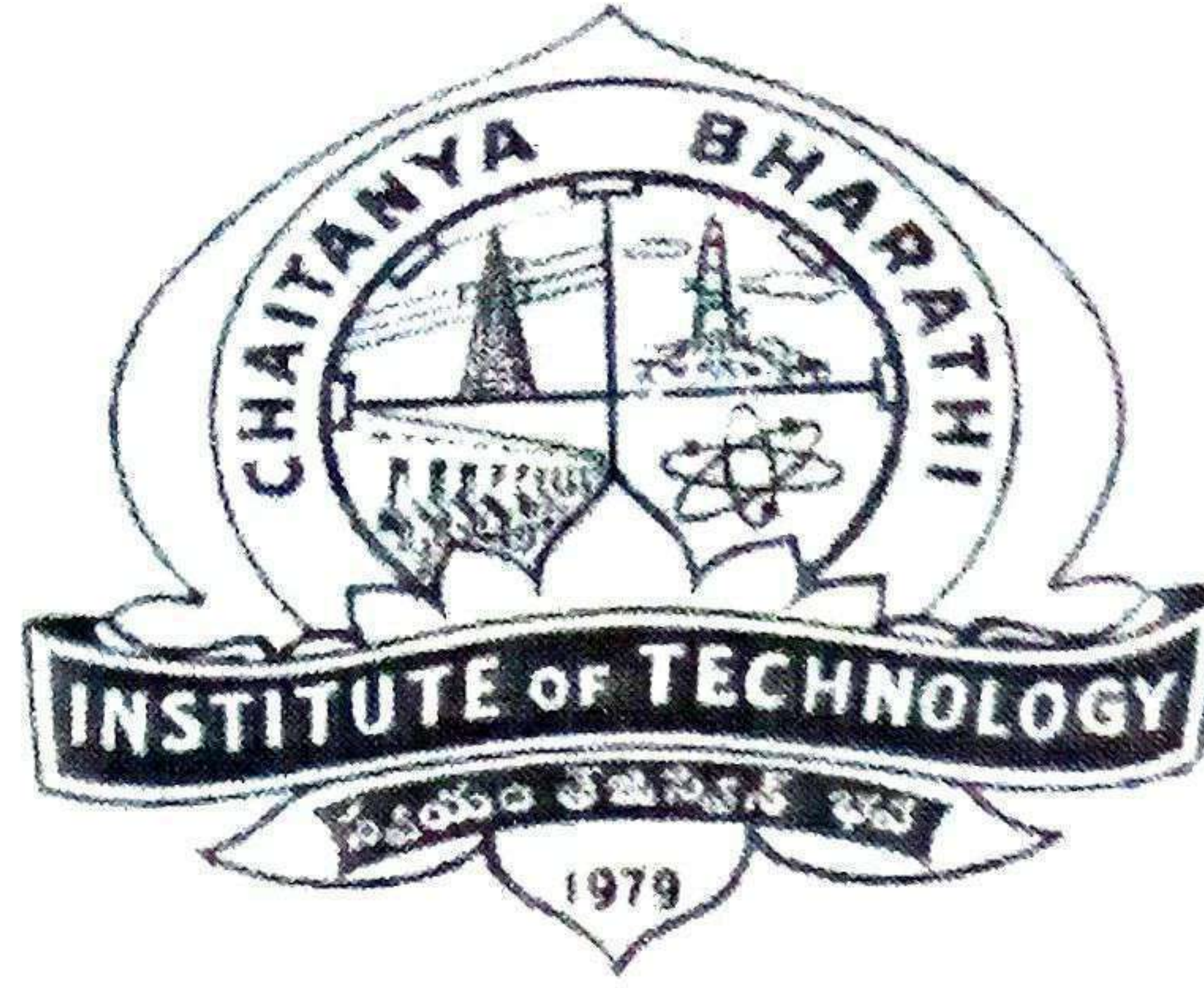
**Mr. P. Sathish**  
**Assistant Professor**  
Dept. of ECE  
CBIT, Hyderabad

Guide 2

**Dr. A.D. Sarma**  
**Professor**  
Dept. of ECE  
CBIT, Hyderabad

Head of the Department

**Dr. N.V. Koteswara Rao**  
**Professor**  
Department of ECE  
CBIT, Hyderabad



**Department of Electronics and Communication Engineering**  
**Chaitanya Bharathi Institute of Technology (Autonomous)**  
**Hyderabad- 500 075**

**Certificate**

This is to certify that the project work titled “**Performance Assessment of IRNSS for Various Dynamic Conditions**”, submitted by **K. Santhosh Kumar** bearing **Roll No. 1601-13-744-007**, student of **Department of ECE, Chaitanya Bharathi Institute of Technology**, in partial fulfillment of the requirements for award of the degree of **Master of Engineering with Communication Engineering** as specialization is a record of the bonafide work carried out by him during the academic year 2014-2015.

**Guide**

**Mr. P. Sathish**

**Assistant Professor**

**Dept. of ECE**

**CBIT, Hyderabad**

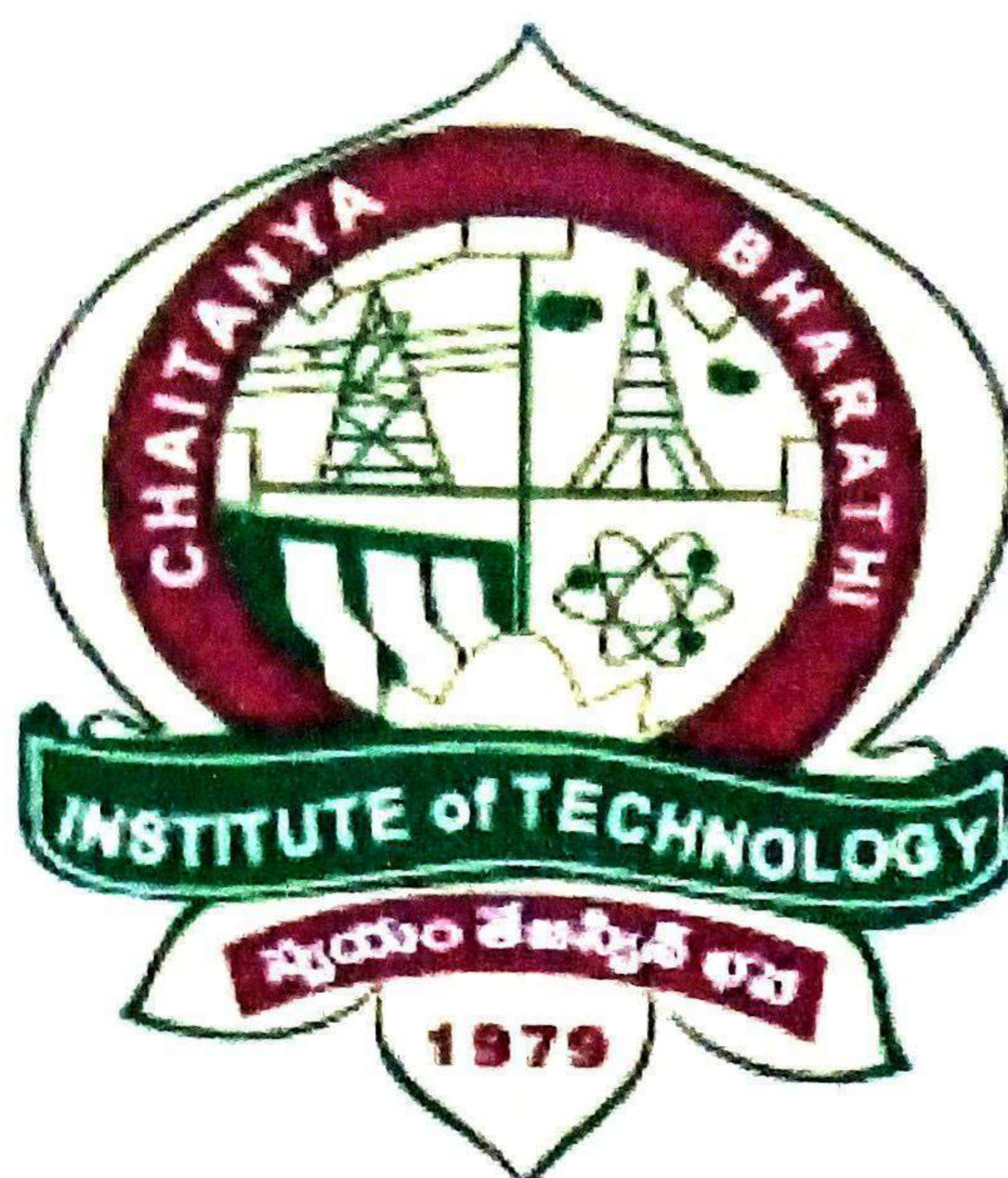
**Head of the Department**

**Dr. N.V. Koteswara Rao**

**Professor**

**Dept. of ECE**

**CBIT, Hyderabad**



**Department of Electronics and Communication Engineering  
Chaitanya Bharathi Institute of Technology (Autonomous)**

**Hyderabad**

**Certificate**

This is to certify that the project work titled “**Performance Evaluation of IRNSS Receiver in Various Modes**” submitted by **P. Balaji** bearing **Roll No.1601-14-744-005**, a student of **Department of ECE, Chaitanya Bharathi Institute of Technology**, in partial fulfillment of the requirements for award of the degree of **Master of Engineering with Communication Engineering** as specialization is a record of the bonafide work carried out by him during the academic year 2015-2016.

**Project Guide**

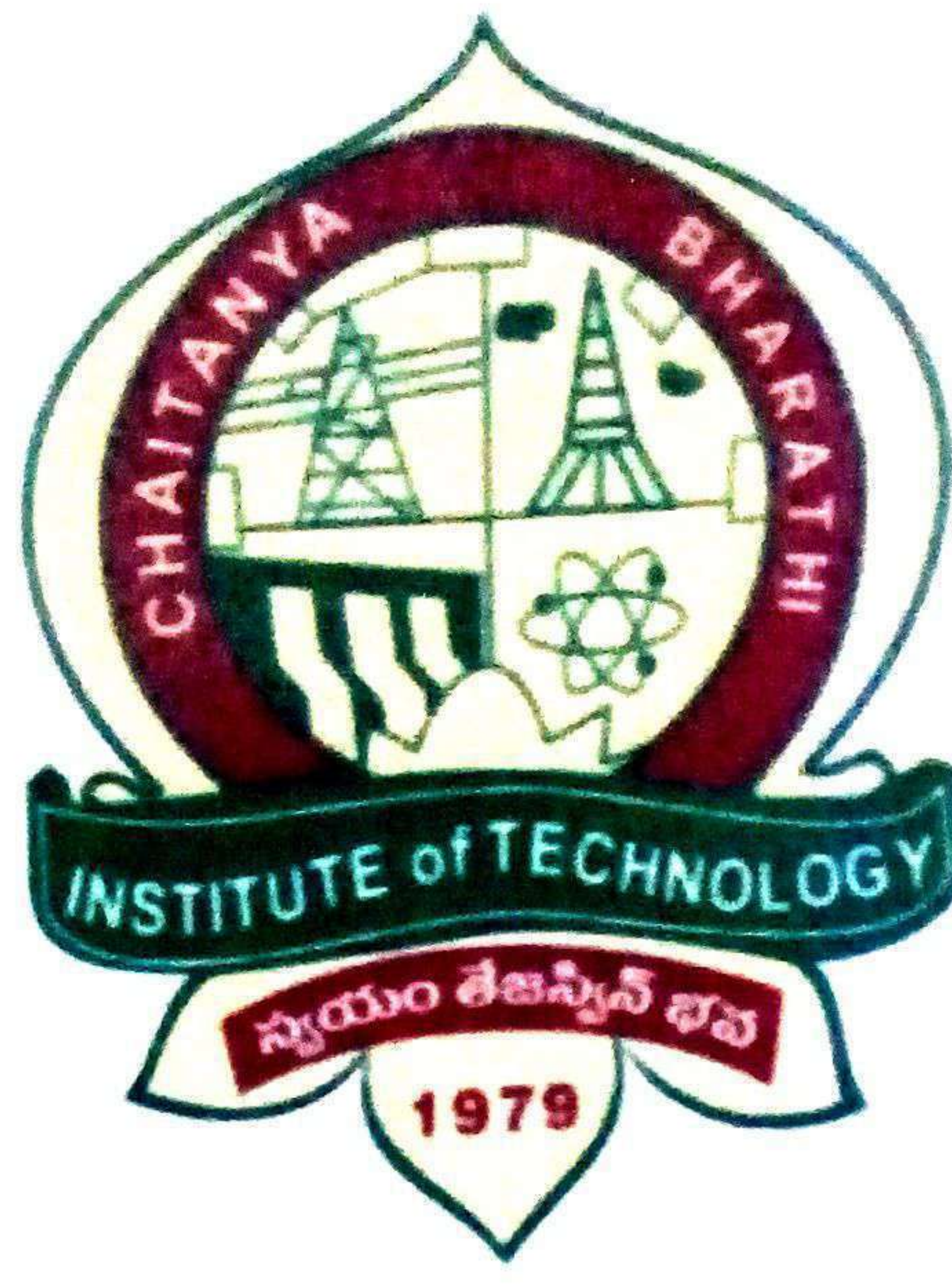
**Dr. D. Krishna Reddy**  
Professor  
Dept. of ECE  
CBIT, Hyderabad

**Project Co-Guide**

**Sri P. Satish**  
Assistant Professor  
Dept. of ECE  
CBIT, Hyderabad

**Head of the Department**

**Dr. N.V. Koteswara Rao**  
Professor  
Dept. of ECE  
CBIT, Hyderabad



**Department of Electronics and Communication Engineering  
Chaitanya Bharathi Institute of Technology (Autonomous)  
Gandipet, Hyderabad- 500 075**

**CERTIFICATE**

This is to certify that the project work titled “**Estimation and Analysis of Doppler Collision and its mitigation in IRNSS**” submitted by **V. Lokendra Kumar** bearing Roll No: **1601-16-744-008**, a student of Department of ECE, Chaitanya Bharathi Institute of Technology, in partial fulfilment of the requirements for award of the degree of **Master of Engineering with Communication Engineering** as specialization is a record of the bonafide work carried out by him during the academic year 2017-2018.

Supervisor

**Dr. D. Krishna Reddy**  
**Professor**  
Department of ECE  
CBIT, Hyderabad

Co-Supervisor

**Shri. P. Sathish**  
**Assistant Professor**  
Department of ECE  
CBIT, Hyderabad

Head of the Department

**Dr. N. V. Koteswara Rao**  
**Professor**  
Department of ECE  
CBIT, Hyderabad



**Implementation of a Simplistic Spoofing Attack to  
Counterfeit the GPS receiver in Smart phone.**

A dissertation submitted in partial fulfillment of the  
academic requirements for the award of

**Master of Engineering (M.E.)**

in

**Electronics and Communication Engineering**

**(Communication Engineering)**

by

**S. Komal Kumar**

(Roll Number: 1601-18-744-003)

Under the esteemed guidance of

**Dr. A. Supraja Reddy**

Associate Professor

Dept. of ECE, CBIT



Department of Electronics and Communication Engineering

**Chaitanya Bharathi Institute of Technology (A)**

Gandipet, Hyderabad, 500075

**JULY, 2020**



Department of Electronics and Communication Engineering  
Chaitanya Bharathi Institute of Technology(A)  
Hyderabad-500 075

Certificate

This is to certify that the project work titled “Implementation of Simplistic Spoofing Attack to counterfeit the GPS receiver in Smart phone” submitted by **Songala Komal Kumar** bearing **Roll No.1601-18-744-003**, a student of **Department of ECE, Chaitanya Bharathi Institute of Technology**, in partial fulfillment of the requirements for award of the degree of **Master of Engineering with Communication Engineering** as specialization is a record of the bonafide work carried out by him during the academic year 2019-2020.

Guide  
Dr. A. Supraja Reddy  
Associate Professor  
Dept. of ECE  
CBIT, Hyderabad

Co-Guide  
Dr. A.D. Sarma  
Director R&D  
CBIT, Hyderabad

Head of the Department  
Dr. D. Krishna Reddy  
Professor  
Dept. of ECE  
CBIT, Hyderabad

HEAD  
DEPARTMENT OF ECE  
Chaitanya Bharathi Institute of Technology  
Hyderabad-500 075

# **Implementation of a Simplistic Spoofing Attack to Counterfeit the GPS receiver in Smart phone.**

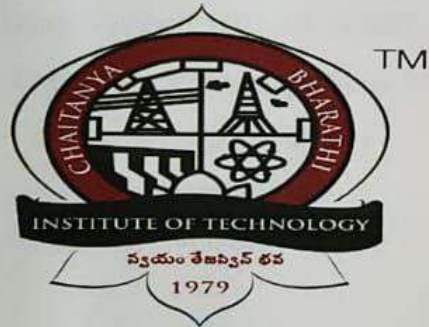
A dissertation submitted in partial fulfillment of the  
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**Master of Engineering (M.E.)  
Electronics and Communication Engineering  
(Communication Engineering)**

*by*

**S. Komal Kumar**

(Roll Number: 1601-18-744-003)



Department of Electronics and Communication Engineering

**Chaitanya Bharathi Institute of Technology (A)**

Affiliated to Osmania University

Accredited by NAAC-UGC and NBA-AICTE

ISO 9001:2015 Certified Institution

Gandipet, Hyderabad, 500075

Telangana State, INDIA

**JULY, 2020**



**Department of Electronics and Communication Engineering  
Chaitanya Bharathi Institute of Technology(A) Hyderabad-500 075**

### Certificate

This is to certify that the project work titled "Generation of Spoofing Signal and its Detection using ML algorithms for GNSS applications" submitted by **Koti. Sushmitha** bearing **Roll No.1601-20-744-002**, a student of **Department of ECE, Chaitanya Bharathi Institute of Technology**, in partial fulfilment of the requirements for award of the degree of **Master of Engineering with Communication Engineering** as specialization is a record of the bonafide work carried out by her during the academic year 2021-2022.

*A. D. Sarma*  
Guide 8/8/22

Dr. A. D. Sarma  
Director R&D  
Professor, Dept. of ECE  
CBIT, Hyderabad

*D. Krishna Reddy*

Head of the Department  
Dr. D. Krishna Reddy  
Professor  
Dept. of ECE  
CBIT, Hyderabad

# **Generation of Spoofing Signal and its Detection using ML Algorithms for GNSS Applications.**

A dissertation submitted in partial fulfilment of the academic requirements for the award of

**Master of Engineering (M.E.)**

in

**Electronics and Communication Engineering  
(Communication Engineering)**

by

**K. Sushmitha**

1601-20-744-002

Under the esteemed guidance of

**Dr. A. D. Sarma**

Director R & D  
Professor, Dept. of ECE



Department of Electronics and Communication Engineering

**Chaitanya Bharathi Institute of Technology (A)**

Affiliated to Osmania University

Accredited by NAAC-UGC and NBA-AICTE

ISO 9001:2015 Certified Institution

Gandipet, Hyderabad, 500075

Telangana State, INDIA

**August, 2022**



Department of Electronics and Communication Engineering  
Chaitanya Bharathi Institute of Technology (Autonomous)

Hyderabad

Certificate

This is to certify that the project work titled "BROADBAND CIRCULARLY POLARIZED MICROSTRIP ANTENNA FOR GNSS APPLICATIONS" submitted by Abbu Pradeep Kumar bearing Roll No.1601-14-744-007, a student of Department of ECE, Chaitanya Bharathi Institute of Technology, in partial fulfillment of the requirements for award of the degree of Master of Engineering with Communication Engineering as specialization is a record of the bonafide work carried out by him during the academic year 2015-2016.

External Guide

Dr. Ashwani Kumar

Scientist 'G' Addl. Director  
P & C, HR & KM  
DLRL, DRDO, Hyderabad

Internal Guide

Dr. A. D. Sarma

Professor  
Dept. of ECE  
CBIT, Hyderabad

Head of the Department

Dr. N. V. Koteswara Rao

Professor  
Dept. of ECE  
CBIT, Hyderabad

**BROADBAND CIRCULARLY POLARIZED MICROSTRIP  
ANTENNA FOR GNSS APPLICATIONS**

A dissertation submitted in partial fulfillment of the  
academic requirements for the award of

**Master of Engineering**

**In**

**Electronics and Communication Engineering**

**(Communication Engineering)**

**By**

**ABBU PRADEEP KUMAR (1601-14-744-007)**

**AT**

**DEFENCE ELECTRONICS RESEARCH LABORATORY, HYDERABAD-05**

Under the esteemed guidance of

**INTERNAL GUIDE**

**Dr. A. D. Sarma**

Professor

Dept. of ECE, CBIT

**EXTERNAL GUIDE**

**Dr. Ashwani Kumar**

Scientist 'G', Addl. Director

DRDO, DLRL



**Department of Electronics and Communication Engineering**

**Chaitanya Bharathi Institute of Technology (Autonomous)**

**Hyderabad-500 075**

**2015-2016**

## MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding, effective upon the date of execution by the last party to sign **14 October 2015** is entered into by and between the **AMD Research & Development Center India Private Limited**, principal place of business at Raheja Mindspace, Building No: 11,8th Floor, APIIC Software layout, Madhapur, Hyderabad - 500081 and the academic partner identified; "**Chaitanya Bharathi Institute of Technology**"; referred as CBIT, with principal place of business at Gandipet, Hyderabad - 500075.

### **I. Introduction**

#### **About AMD**

AMD (NYSE: AMD) is a semiconductor design innovator leading the next era of vivid digital experiences with its groundbreaking AMD Fusion Accelerated Processing Units (APUs) that power a wide range of computing devices. AMD's server computing products are focused on driving industry-leading cloud computing and virtualization environments. AMD's superior graphics technologies are found in a variety of solutions ranging from game consoles, PCs to supercomputers.

AMD globally employs University Relations (UR) as a unique strategic lever to build the young innovative and diverse talent pipeline, thereby extending support to the academic institutions to harness the budding engineering talent, and groom them for the industry.

- AMD India UR & Branding Strategy is comprised of four initiatives, focused on collaboration between the Company and the Academic entity:
  - Research
  - Relations
  - Recruitment of Co-Ops
  - Recruitment of NCGs

#### **About CBIT**

Chaitanya Bharathi Institute of Technology (CBIT), a premier Engineering College, established in the year 1979 in Hyderabad by Chaitanya Bharathi Educational Society, stands as No.1 among the Private Engineering Colleges in the State of Telangana. The College is accredited by NAAC - UGC and the programmes are accredited four times by NBA, AICTE. It is also an ISO: 9001-2008 certified institute. The Institute has the credit of receiving MHRD grants of Rs.400 crores under TEQIP phase-II, Sub-component 1.1. The Institute is recognized as one of the well performed Institutes. CBIT has grown into an institution to reckon in the field of Technical Education in India and it is ranked 35 and 57 respectively in the recent survey of Outlook and The Week magazine. The recent milestones achieved include conferment of Autonomous status and permanent affiliation with UGC and Osmania University as well. The institute currently offers 9 Undergraduate programs with an intake of 1020 students and 11 Postgraduate programs with an intake of 374 students.

This MoU focuses on the mutually beneficial collaboration between the two parties, thus ensuring exploration and harnessing of the above stated initiatives. This MoU with academic partner identified ("**CBIT**") is primarily focused on Relations, and Recruitment (of Co-Ops and NCGs).



## **II. Objectives and terms of Collaboration**

- A. The Recruitment of Co-Ops attract strict adherence to the following terms from the academic partner:
- Students chosen for Co-Ops be in good standing at their school or university
  - Generally, Co-ops must be able to work full-time during the entire period of the defined work tour
  - Co-ops must make good progress (completion of all academic requirements as stipulated by the governing academic body) toward the completion of his or her degree between work tours. Academic progress of co-ops is subject to periodic review by the academic partner.
  - Students terminating their formal education are not eligible to participate in the Co-op Program at AMD.
  - If a student accepts an employment position with another employer while on a Co-op tour at AMD, the student's employment with AMD may terminate.
  - Students must familiarize themselves with AMD policies. Failure to adhere to AMD policies while on tour as a Co-op may result in termination.
- B. The Recruitment of Co-Ops attract strict adherence to the following terms from AMD India:
- AMD pays a monthly salary for the recruited Co-Ops, during the committed work tour.
  - AMD reimburses Co-ops for program fees charged by their respective school or universities, to a maximum of INR 50,000.00 per semester, provided the following conditions are met:
    - Students must submit all receipts and a reimbursement form to AMD's Educational Reimbursement Administrator
    - Students receiving full or partial grants or scholarships for their education are not eligible for full reimbursement. For example, if co-op fees total INR 100,000.00 for one semester and the scholarship is funding INR 40,000.00, the student will only be reimbursed INR 10,000.00

## **III. Liability**

- Each party takes reasonable care and precaution in fulfilling the spirit of this MOU. No other liabilities are applicable unless explicitly agreed before in writing by the authorized persons

## **IV. Term and Termination of this Memorandum of Understanding**

- This Memorandum of Understanding shall last for an initial period of two (2) years from the Effective Date unless extended in writing three (3) months prior to date of expiry.
- Either party is free to withdraw at any time during the initial period with prior written notice to the other party of its intention to withdraw. During that year, both parties will endeavor to address and correct the concerns of the party who wishes to withdraw. If those efforts are not successful,

this Memorandum of Understanding will terminate when the three (3) month notice period expires.

## V. Amendments

Amendments to this Memorandum of Understanding may be proposed, either by the undersigned or their successors, and shall become effective only if agreed to, in writing, by the undersigned or their successors.

## VI. General

- This Memorandum of Understanding is and will be available for disclosure to the general public.
- This Memorandum of Understanding is an agreement between both parties and does not create or confer any right or benefit on any other person or party, private or public.
- The Parties are and shall remain independent contractors and nothing herein shall be construed to create a partnership, agency, joint venture, or teaming agreement between the Parties. Nothing herein shall be construed as implying that either Party's employees are employees of the other.
- A determination that any term of this Memorandum of Understanding is invalid for any reason shall not affect the validity of the remaining terms of the Memorandum of Understanding.
- This Memorandum of Understanding constitutes the entire agreement between the Parties and supersedes all prior agreements and understandings, whether oral or written.

## VI. Appendix

The specific dates of the Co-Op tour and the mutually agreed upon work tour time lines are in the attached Appendix.

### Agreed to:

For AMD R & D Center India Private Limited

BY: 

Name: **Dr. Kiranmai Dutt Pendyala**


Designation: CVP-Human Resources

AMD – Greater Asia & EMEA

Phone: 040-40615000

Email: [Kiranmai.pendyala@amd.com](mailto:Kiranmai.pendyala@amd.com)

For Chaitanya Bharathi Institute of Technology.

BY:   
26/10/15  
PRINCIPAL  
Chaitanya Bharathi Institute of Technology  
HYDERABAD - 500 076

Name: **Dr. B. Chennakesava Rao**

Designation: Principal

Phone: 98661 41821

Email: [principal@cbit.ac.in](mailto:principal@cbit.ac.in)

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For AMD R & D Center India Private Limited

For Chaitanya Bharathi Institute of Technology.

BY:

BY:

Name: Dr. Kiranmai Dutt Pendyala

Name: Dr. B. Chennakesava Rao,

Designation: Head - Human Resources

**PRINCIPAL**  
Chaitanya Bharathi Institute  
of Technology

AMD - EMEA & INDIA

Designation: Principal  
GANDIPET, R. R. (Dist.)  
HYDERABAD - 500 075

Phone: 040-40615000

Phone: 98661 41821

Email: [Kiranmai.pendyala@amd.com](mailto:Kiranmai.pendyala@amd.com)

Email: [principal@cbit.ac.in](mailto:principal@cbit.ac.in)



**Memorandum of Understanding**

**For**

IRNSS Navigation Receiver Field Trial and Data Collection

**Between**

Space Applications Centre  
Indian Space Research Organization  
Department of Space, Government of India  
Ahmedabad – 380015

**And**

Chaitanya Bharathi Institute of Technology  
(Affiliated to Osmania University)  
Chaitanya Bharathi (Post), Gandipet,  
Hyderabad- 500075. India

**November, 2014**

This MOU is entered into on 12<sup>th</sup> day of November, 2014

**BETWEEN**

Space Applications Centre, Jodhpur Tekra, Ambawadi Vistar P.O., Ahmedabad, 380015, a centre of Indian Space Research Organization, Department of Space, Government Of India (hereinafter called "SAC" which expression shall where the context so admits include its successors and permitted assignees) of the one part,

**AND**

Chaitanya Bharathi Institute of Technology (A) (Affiliated to Osmania University) Accredited by NBA (AICTE) and NAAC (UGC), an ISO 9001-2008 Certified Institution, Chaitanya Bharathi (Post), Gandipet, Hyderabad-500075. India.

**1.0 Preamble:**

Whereas, Space Applications Centre (hereinafter referred to as "SAC" which expression shall where the context so admits include its successors and permitted assignees) is a centre of ISRO and Chaitanya Bharathi Institute of Technology(A) (hereinafter referred to as "CBIT" which expression shall where the context so admits include its successors and permitted assignees) is affiliated to Osmania University"

Whereas, SAC is involved in design and development of space-borne instruments for ISRO missions and development and operationalization of applications of space technology for national development. The applications cover communication, broadcasting, navigation, disaster monitoring, meteorology, oceanography, environment monitoring and natural resources survey. SAC designs and develops all the transponders for the INSAT and GSAT series of communication satellites and the optical and microwave sensors for IRS series of remote sensing satellites, Navigation payloads for IRNSS and GAGAN programme. Further, SAC develops the ground transmit/receive systems (earth stations/ ground terminals) and data/image processing systems;



Whereas, CBIT is one of the Premier Engineering Colleges for imparting Engineering education. This is the first Engineering College in private sector, established in 1979 and has produced more than 20,000 successful engineers in all walks of life including entrepreneurs, academicians and research engineers etc. The Institute has good infrastructural facilities and has highly qualified and experienced faculty with research background.

## **2.0 Effective Date and Duration of MoU:**

This MoU is effective from the date of its signing and is valid for a duration 2 (Two) years from the date of signing. It may be extended further in writing based on mutual consent.

## **3.0 Scope of MoU:**

Scope of the MoU involves Site identification, site preparation, and Installation of the IRNSS receiver. IRNSS Navigation Data collection and analysis to be carried out on regular basis for verification and for other mutually agreed topics of research for both parties. Depending upon the requirement certain scientific experiments can be planned and executed within overall MoU umbrella. With mutual consent, both the Parties can extend the period of data collection and observation locations (sites).

## **4.0 Methodology:**

**4.1** Suitable Site Selection

**4.2** Installation and commissioning of IRNSS Receiver

**4.3** Continuous IRNSS and GPS data logging, analysis of the data

**4.4** Transmission of IRNSS and GPS data to SAC as and when demanded by SAC

Data transmission mechanism can be mutually worked out.

## **5.0 Deliverables:**

**5.1** SAC deliverables

- i. IRNSS receiver and data processing systems as detailed in Annexure-1.
- ii. User and operations manual





- iii. Format for Monthly status report

## **5.2 CBIT deliverables**

- i. All necessary logistics so that IRNSS Receiver shall be established to collect positional data in raw format received from IRNSS, GPS constellation with 1 sec update rate
- ii. Send a Monthly status Report on usage/performance of receiver to SAC in a prescribed format.
- iii. Send the Receiver data to SAC as and when asked for

## **6.0 Guidelines on Data Usage:**


The data is to be used strictly for internal research purpose only. The Receiver should not be used for any operational purpose. SAC does not take any responsibility for any loss, damage etc. that may occur to the user because any unauthorized use.


## **7.0 Responsibility of Each Party:**

SAC and CBIT shall jointly work towards IRNSS system verification using data collected from IRNSS receivers. In addition, following are the specific responsibilities.

### **7.1 CBIT:**

- 7.1.1 All the logistics support, data collection site preparation, required for setting up of IRNSS Receiver will be provided by CBIT.
- 7.1.2 Installation of the IRNSS Receiver at the site will be carried out by CBIT
- 7.1.3 Utmost care to be taken in handling the IRNSS Receiver.
- 7.1.4 Send the Receiver Data to SAC when asked for
- 7.1.5 Safety and security of the IRNSS Receiver
- 7.1.6 IRNSS data reception, processing, archival to be done by CBIT.





## **7.2 SAC:**

- 7.2.1 SAC will provide IRNSS Receiver Unit(s) and Receiver operation manual on returnable basis (As detailed in Annexure-1)
- 7.2.2 SAC will provide technical assistance to CBIT in working out modalities of Data collection, data sharing, etc.
- 7.2.3 SAC will provide technical assistance to CBIT in proper operation and maintenance of IRNSS Receiver
- 7.2.4 SAC will provide technical assistance to CBIT in identifying appropriate research areas considering capabilities of this Receiver

## **8.0 Project schedule:**

- 8.1 Selection of Suitable Site(s) within 10 days from the date of signing MoU
- 8.2 Installation and Commissioning of IRNSS Receiver within 10 days after receipt of receiver by CBIT
- 8.3 Regular data collection and analysis will be carried out for the duration of the MoU from the date of Installation and Commissioning of IRNSS Receiver


## **9.0 Training:**

SAC will provide necessary training and guidelines for site identification, receiver operations, data collection, processing and data transfer

## **10.0 Project Monitoring:**

- 10.1 SAC and CBIT shall identify focal person(s) who shall be responsible for organizational matters and interfacing for day to day operation, such as functioning of IRNSS Receiver, security etc. Each party shall pursue its independent research using data from this IRNSS Receiver, with mutual consultation.
- 10.2 A periodic monthly status report should be generated by CBIT regarding Receiver operations.







## 11.0 Functionaries

Dr.A.D.Sarma , Dr.N.V.Koteswara Rao, Smt.N.Aivelu Manga , Sri.P.Sathish  
(CBIT Focal person)

Shri Yogmesh Patel Sci/Engr, SNAA  
(SAC Focal person) Shri Atul Shukla, GH, SNAA

## 12.0 Confidentiality:

**12.1** During the tenure of MoU and thereafter both parties undertake on their behalf and on behalf of their employees/representatives to maintain strict confidentiality and prevent disclosure thereof of all the information and data exchanged/generated pertaining to this agreement. However, the data may be published and shared jointly for scientific publication after mutual consent in writing.


**12.2** CBIT will not disclose any research result and Foreground information, generated out of or involving the data, its derivative or information thereof from the IRNSS Receiver established (at given site) as per terms of this MoU to any third party without seeking prior written permission.

## 13.0 Intellectual Property Rights :

All the research results and foreground information as well as foreground Intellectual Property Rights, generated out of or involving the data, its derivative or information thereof, from IRNSS Receiver and sites established as per terms of this MoU whether or not legally protected, shall be owned by SAC. CBIT will be free to use such data for their internal R&D purposes with intimation to SAC.

Notwithstanding any provisions mentioned above or any future licensing agreements, SAC shall be deemed to have all rights including non-exclusive, irrecoverable and royalty-free license for the unlimited development and use of any and all Foreground information and Foreground Intellectual Property Rights, generated out of or involving the data, its derivative or information thereof, from the IRNSS Receiver established (at given site) as per terms of this MoU, whether or not legally protected, for the purposes of its own applications.





#### **14.0 Change In Scope of Work:**

Any change in scope of work would be with mutual consent of both the parties in writing.

#### **15.0 Modifications to MoU:**

**15.1** Any amendment or modifications of this MOU shall be in writing by both parties.

**15.2** The modifications/changes shall be effective from the date on which they are made/ executed, unless otherwise agreed to.

#### **16.0 Force Majeure:**

Neither party shall be held responsible for non fulfillment of their respective obligation under this MoU due to circumstances beyond their control but not limited to war, flood, cyclones, riots, strikes etc. If such condition continues beyond six months, the parties shall then mutually decide about the future course of action. Either party shall intimate each other of any such event.

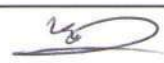
#### **17.0 Indemnity:**

CBIT shall exercise reasonable skill, care and diligence in the performance of this MoU activity and indemnify and keep indemnified SAC in respect of any loss, damage or claim howsoever arising out of related to breach of MoU, statutory duty or negligence by CBIT or its employees, agents or subcontractors in relation to the performance or otherwise of the services to be provided under this MoU.

#### **18.0 Termination of MoU:**

**18.1** During the validity of the MoU, if it is found that if the IRNSS Receiver is not in use, misuse or due care is not taken, SAC has right to recall the IRNSS Receiver established as per terms of this MoU with intimation to CBIT.





**18.2** Similarly if CBIT considers it necessary to dismantle the IRNSS Receiver established as per terms of this MoU for unavoidable reason at a given site, CBIT will try to provide an alternate site for the IRNSS observations and facilitate SAC to relocate IRNSS Receiver. If however, CBIT fails in providing such alternate, SAC will be free to dismantle/uninstall and remove the IRNSS Receiver established as per terms of this MoU along with accessories.

**19.0 Arbitration:**

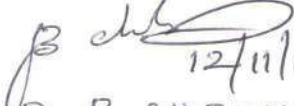
In the event of any dispute or difference between the parties hereto, such disputes or differences shall be resolved amicably jointly by Director, SAC and Director, CBIT.

**20.0 Jurisdiction:** Ahmedabad shall be the jurisdiction.

In witness whereof, the parties hereto have signed this MOU on the 12<sup>th</sup> November, 2014


  
Shri K S Parikh  
Dy. Director, SNAAC  
Space Applications Centre  
Ahmedabad.

के. एस. परीख / K.S. PARIKH  
उप निदेशक / Dy. Director  
सेटर्कोम एवं नौसंचालन अनुप्रयोग क्षेत्र  
Space Applications Centre (ISRO)  
अंतरिक्ष उपयोग केंद्र (इसरो)  
Space Applications Centre (ISRO)  
भारत सरकार / Govt. of India  
अहमदाबाद / Ahmedabad-380 015.


  
12/11/14  
Dr B. CHENNA KESAVA RAO  
PRINCIPAL  
EG-Engg-Dept. CBIT  
Hyderabad

PRINCIPAL  
Chaitanya Bharathi Institute of Technology  
HYDERABAD-500 075.

Witness

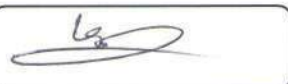
  
V.K. PANK  
Head, SNTD,  
DPD, User Rx.

Witness:

  
prof. ECE Dept.  
CBIT Hyd-#5

## ANNEXURE – I

Sr. No.	Name of Item	Qty	Remarks
1	User Receiver (IDU)	1	Main Unit
2	Data Processing machine	1	
3	Antenna With Mounting Stand (ODU)	1	
4	Antenna Cable (RF)	1	
5	RS-232 Cable	2	
6	RS-232 to USB Converter plus cable	1	
7	AC Mains Power cord	1	
8	LAN Cable	1	
9	USB cable	2	
10	Battery	1	For field usage
11	Software CD-ROM	1	
12	User Manual & Driver CD-ROM	1	



# **Predictive Analysis of Doppler Collision for NavIC System**

A project report submitted in partial fulfilment of the requirements for the award

of the degree of

**Bachelor of Engineering**

In

**ELECTRONICS AND COMMUNICATIONS ENGINEERING**

Submitted by

**Muvva Likhitha (1601-15-735-012)**

**Madhuri Kandi (1601-15-735-013)**

**Praneesha Reddy (1601-15-735-014)**

Under the guidance of

**Shri. P. Sathish**

Assistant Professor

Department of ECE, CBIT



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Department of Electronics and Communication Engineering

**CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY**

Gandipet, Hyderabad-500075

March, 2019.



## Department of Electronics and Communication Engineering

### Certificate

This is to certify that the project report entitled “**PREDICTIVE ANALYSIS OF DOPPLER COLLISION FOR NavIC SYSTEM**” being submitted by **Muvva Likhitha (160115735012), Madhuri Kandi (160115735013), Praneesha Reddy (160115735014)** in partial fulfilment for the award of the Degree of **Bachelor of Engineering in Electronics and Communication** Department from Chaitanya Bharathi Institute of Technology , is a record of bonafide work carried out by them during academic year 2018-19.

Head of The Department

Dr. D. Krishna Reddy

Department of ECE

CBIT

Project Guide

Shri. P. Sathish

Assistant professor

ECE, CBIT

# Performance Analysis of NavIC GDOP Using Neural Networks

A project report submitted in partial fulfilment of the requirements for the  
award of the degree of

**Bachelor of Engineering**

in

**Electronics and Communications Engineering**

Submitted by:

**Divya Bhoomi** (1601-15-735-007)

**C.Sahithi** (1601-15-735-018)

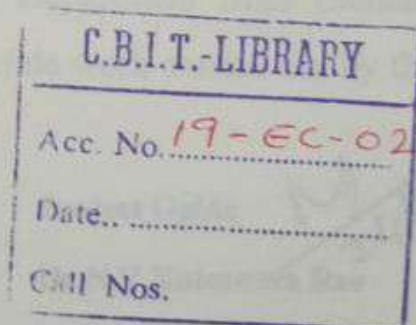
**Sai Himaja Manchikanti** (1601-15-735-019)

Under the guidance of

**Dr. N.V.Koteswara Rao**

Director-Academics

CBIT



Department of Electronics and Communication Engineering

**Chaitanya Bharathi Institute of Technology**


Gandipet, Hyderabad-500075

March, 2019



**CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY**  
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION**  
**ENGINEERING**  
**CERTIFICATE**

This is to certify that the project report entitled “**Performance Analysis of NavIC GDOP using Neural Networks**” being submitted by **Divya Bhoomi(160115735007),C.Sahithi(160115735018), Sai Himaja Manchikanti (160115735019)** in partial fulfilment for the award of the Degree of **Bachelor of Engineering in Electronics and Communication** Department from Chaitanya Bharathi Institute of Technology , is a record of bonafide work carried out by them during academic year 2018-19.

  
Head of The Department

Dr.D.Krishna Reddy

Department of ECE

CBIT

Project Guide

Dr.N.V.Koteswara Rao

Professor,Department of ECE

Director-Academics,CBIT

Project Co-Guide

P.Sathish

Assistant Professor

Department of ECE,CBIT



A PROJECT REPORT  
ON  
"ESTIMATION AND MITIGATION OF MULTIPATH ERROR IN IRNSS USING  
ADAPTIVE FILTER"

Submitted in partial fulfilment of the requirements  
For the award of the degree of

**Bachelor of Engineering**  
in  
**ELECTRONICS AND COMMUNICATION ENGINEERING**  
SUBMITTED BY

J.EMMANUEL (160115735038)

P.M.V GOPI KRISHNA (160115735045)

S.SAMPREETH (160115735054)

Under the Esteemed guidance of  
**Smt K.S.R.S Jyothsna**  
Assistant Professor  
Dept. of ECE, CBIT, Hyderabad.

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Chaitanya Bharathi Institute of Technology  
Hyderabad-500 075  
2018-19



**Chaitanya Bharathi Institute of Technology (A)**  
(Affiliated to OU, Accredited by NBA (AICTE), ISO certified 9001:2008)  
**Chaitanya Bharathi P.O., Gandipet, Hyderabad-500 075.**  
E-mail: [ircrcbit@yahoo.com](mailto:ircrcbit@yahoo.com); Website: [www.cbit.ac.in](http://www.cbit.ac.in) (O) 08413-233356;  
918413-233356; 918413-233865; Fax: 918413 232099



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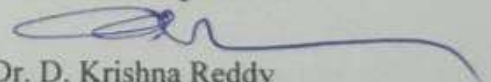
This is to certify that the project report entitled "ESTIMATION AND MITIGATION OF MULTIPATH ERROR IN IRNSS USING ADAPTIVE FILTER" being submitted by J. Emmanuel (1601-15-735-038), P.M.V. Gopi Krishna (1601-15-735-045), S. Sampreeth (1601-15-735-054), in partial fulfilment of the requirement for the degree Bachelor of Engineering in Electronics and Communication Engineering from CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY(A), Hyderabad during the academic year 2018-2019. The results embodied in this report have not been submitted to any other university or institution for the award of any degree or diploma.



**Guide**

Smt. K.S.R.S. Jyothisna  
Assistant Professor  
Dept. of ECE  
CBIT, Hyderabad

**Head of the Department**



Dr. D. Krishna Reddy  
Professor and Head  
Dept. of ECE  
CBIT, Hyderabad

# ANALYSIS OF VISIBILITY OF IRNSS SATELLITES

A project report submitted in partial fulfillment of the requirement for the award of the degree of

**Bachelor of Engineering**

In

**ELECTRONICS AND COMMUNICATION ENGINEERING**

By

**Sajja Soumya (160115735024)**

**Sreeshanth Reddy Chenreddy (160115735057)**

Under the esteemed guidance of

**Project Guide**

**K. Sudershan Reddy**

Associate Professor

Department of ECE, CBIT



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Hyderabad - 500075

April, 2019



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Chaitanya Bharathi P.O., CBIT Campus, Gandipet, Kokapet (V),  
Gandipet Mandal, Ranga Reddy District, Hyderabad - 500 075, Telangana



e-mail : principal@cbit.ac.in; Website: www.cbit.ac.in ☎ : 040 - 24193276, 277, 280, Fax: 040 - 24193278

Certificate No. : 09186416983

## CERTIFICATE

This is to certify that the project entitled "ANALYSIS OF VISIBILITY OF IRNSS SATELLITES" being submitted by SAJJA SOUMYA (1601-15735-024) and SREESHANTH REDDY CHENREDDY (1601-15-735-057) in partial fulfillment of the requirement for the degree Bachelor of Engineering in Electronics and Communication Engineering from CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY (A), Hyderabad during the academic year 2018-2019. The results embodied in this report have not been submitted to any other university or institution for the award of any degree or diploma.

Guide

*[Handwritten Signature]*  
23/4/18

**K. Sudershan Reddy**  
Associate Professor  
Department of ECE  
CBIT, Gandipet

Head of the Department

*[Handwritten Signature]*

**Dr. D. Krishna Reddy**  
Professor and Head  
Department of ECE  
CBIT, Gandipet

# ANALYSIS OF COVERAGE AREA OF IRNSS ON EARTH

*A Dissertation submitted in partial fulfillment of the requirements for the  
degree of*

**Bachelor of Engineering**

**In**

**Electronics and Communication Engineering**

*Submitted by:*

**Aishwarya Kasim      1601-15-735-062**

**U. Tejas Kini          1601-15-735-095**

*Under the esteemed guidance of*

**Sri K. Sudershan Reddy**

Associate Professor

Department of Electronics and Communication Engineering  
Chaitanya Bharathi Institute of Technology, Hyderabad.



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e-mail : principal@cbit.ac.in; Website: www.cbit.ac.in ☎ : 040 - 24193276, 277, 280, Fax: 040 - 24193278

## Department of Electronics & Communication Engineering

### CERTIFICATE

This is to certify that the project report entitled "ANALYSIS OF COVERAGE AREA OF IRNSS ON EARTH" is submitted by Aishwarya Kasim (1601-15-735-062), U. Tejas Kini (1601-15-735-095), in partial fulfillment for the award of the **Bachelor of Engineering in Electronics and Communication** from **Chaitanya Bharathi Institute of Technology**, Hyderabad during the academic year 2018-2019 as a record of bonafide work carried out by them under my supervision.

Guide

**Sri K. Sudershan Reddy**  
Associate Professor  
Department of ECE  
CBIT, Gandipet

Head of the Department

**Dr. D. Krishna Reddy**  
Professor and Head  
Department of ECE  
CBIT, Gandipet

A PROJECT REPORT ON  
**PERFORMANCE ANALYSIS OF SINGLE AND DUAL FREQUENCY CARRIER  
SMOOTHING TECHNIQUES FOR GBAS**

Submitted in partial fulfilment of the requirements  
for the award of the degree of

**BACHELOR OF ENGINEERING**

IN

**ELECTRONICS AND COMMUNICATION ENGINEERING**

**SUBMITTED BY**

M. DIVYA SREE (160115735123)

LIJI. P. JOSE (160115735126)

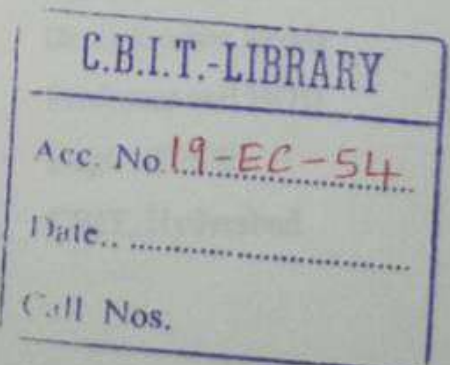
S. AKHIL (160115735141)

Under the Esteemed guidance of

**Dr. A. SUPRAJA REDDY**

**Assistant Professor**

**Department of ECE, CBIT, Hyderabad.**



Department of Electronics and Communication Engineering  
**CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY (A)**  
(Affiliated to Osmania University: accredited by NBA(AICTE))  
Gandipet, Hyderabad-500075



# Chaitanya Bharathi Institute of Technology

(Regd. No. 855/2009)

(Affiliated to Osmania University, Accredited by NBA (AICTE), Accredited by MAAC (UGC), ISO Certified 9001 : 2008)

Chaitanya Bharathi P.O., CBIT Campus, Gandipet, Kokapet (V),  
Rajendranagar Mandal, Ranga Reddy District, Hyderabad - 500 075

e-mail : principal@cbit.ac.in; principalcbit1979@gmail.com; Website : www.cbit.ac.in

☎ : 040 - 24193276; 24193277; 24193280; Fax : 040 - 24193278



## CERTIFICATE

This is to certify that the project report entitled "PERFORMANCE ANALYSIS OF SINGLE AND DUAL FREQUENCY CARRIER SMOOTHING TECHNIQUES FOR GBAS" being submitted by Ms. M. Divya Sree (1601-15-735-123), Ms. Liji. P. Jose (1601-15-735-126), Mr. S. Akhil (1601-15-735-141), in partial fulfilment of the requirement for the degree **Bachelor of Engineering in Electronics and Communication Engineering** from CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY affiliated to Osmania University, Hyderabad during the academic year 2018-2019. The results embodied in this report have not been submitted to any other university or institution for the award of any degree or diploma.

*Supra*  
25/11/19

Internal Guide:

Dr.A.Supraja Reddy  
Assistant Professor  
Dept. of ECE  
CBIT, Hyderabad

Head of the Department:

Dr. D Krishna Reddy  
Professor and HOD  
Dept. of ECE  
CBIT, Hyderabad

*[Signature]*  
EXTERNAL EXAMINER



# PERFORMANCE ANALYSIS OF S BAND SIGNALS FOR PRECISE POSITIONING AND SIGNAL AVAILABILITY

A project report submitted in partial fulfilment of the requirements for the award of the  
degree of

## BACHELOR OF ENGINEERING IN ELECTRONICS AND COMMUNICATION ENGINEERING

Submitted by

**MEGHNA RAMAN (1601-15-735-127)**

**THOTA PREETHI (1601-15-735-130)**

**B.RAJA MALLA REDDY (1601-15-735-154)**

Under the esteemed guidance of

**DR.A.SUPRAJA REDDY**

Assistant Professor

Department of ECE, CBIT



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April 2019



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Rajendranagar Mandal, Ranga Reddy District, Hyderabad - 500 075**  
e-mail : principal@cbit.ac.in; principalcbit1979@gmail.com; Website : www.cbit.ac.in  
☎ : 040 - 24193276; 24193277; 24193280; Fax : 040 - 24193278



**CERTIFICATE**

This is to certify that the project report entitled **“PERFORMANCE ANALYSIS OF S-BAND SIGNALS FOR PRECISE POSITIONING AND SIGNAL AVAILABILITY”** being submitted by **MEGHNA RAMAN (1601-15-735-127) THOTA PREETHI (1601-15-735-130) and B.RAJA MALLA REDDY (1601-15-735-154)** in partial fulfillment for the award of the Degree of Bachelor of Engineering in **Electronics and Communication Engineering** from **Chaitanya Bharathi Institute of Technology (A)**, affiliated to Osmania University is a record of bonafide work carried out by them under my guidance and supervision, during academic year 2018-19.

*Supra*  
25/11/19

Internal Guide:

Dr.A.Supraja Reddy  
Assistant Professor  
Dept. of ECE  
CBIT, Hyderabad

*[Signature]*

Head of the Department:

Dr. D Krishna Reddy  
Professor and HOD  
Dept. of ECE  
CBIT, Hyderabad

*[Signature]*

EXTERNAL EXAMINER

# PERFORMANCE ANALYSIS OF DILUTION OF PRECISION AND POSITION ACCURACY OF IRNSS

A project report submitted in partial fulfilment for the Award of  
Degree of

Bachelor of Engineering

IN

ELECTRONICS AND COMMUNICATION ENGINEERING

BY

K. SAI PRATHEEK REDDY (160115735167)

SRIRAJ KANDALA (160115735170)

ADARSH A. SUKUMARAN (160115735172)

Under the guidance of

**SRI. K. SUDERSHAN REDDY,**

Associate Professor,  
Dept. of ECE, CBIT.



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Date.....

Call Nos.

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Chaitanya Bharathi Institute of Technology (A)

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Certified 9001:2015), GANDIPET, HYDERABAD – 500 075

Website: [www.cbit.ac.in](http://www.cbit.ac.in)

APRIL 2019



# Chaitanya Bharathi Institute of Technology

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Chaitanya Bharathi P.O., CBIT Campus, Gandipet, Kokapet (V),  
Rajendranagar Mandal, Ranga Reddy District, Hyderabad - 500 075  
e-mail: principal@cbit.ac.in, principalcbit1979@gmail.com, Website: www.cbit.ac.in

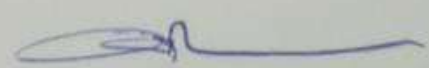
☎ : 040 - 24193276; 24193277; 24193280; Fax : 040 - 24193278

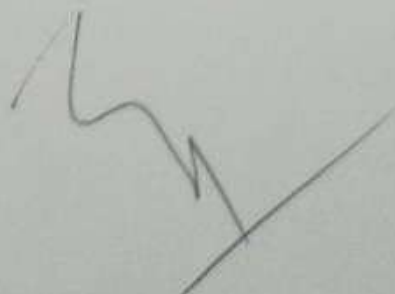


## CERTIFICATE

This is to certify that the project work entitled "PERFORMANCE ANALYSIS OF DILUTION OF PRECISION AND POSITION ACCURACY OF IRNSS" submitted by SRIRAJ KANDALA (160115735170), ADARSH A. SUKUMARAN (160115735172) and K. SAI PRATHEEK REDDY (160115735167) in partial fulfilment of the requirements for the award of the degree of BACHELOR OF ENGINEERING in ELECTRONICS AND COMMUNICATION ENGINEERING from CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY(A), affiliated to OSMANIA UNIVERSITY, Hyderabad, is a record of bonafide work carried out by them under my supervision and guidance during the academic year 2018-2019.

  
20/4/19.  
**Project Guide**  
**Sri. K. Sudershan Reddy**  
Associate Professor,  
Dept. of ECE,  
CBIT, Hyderabad.

  
**Head of the Department**  
**Dr. D. Krishna Reddy**  
Professor,  
Dept. of ECE,  
CBIT, Hyderabad.



# Estimation of IRNSS Receiver Bias using Fitted Receiver Bias Technique

In the partial fulfillment of the requirement for the award of the degree of  
Bachelor of Engineering in Electronics and Communication Engineering

Submitted by

Batch No.321

Pranav Karangula - 160117735160

Rohit Varanasi - 160117735163

Sai Abhishek Kodi -160117735164

Under the guidance of

Smt. K.S.R.S Jyothsna

Asst. Professor, Department of ECE, CBIT



Department of Electronics and Communication Engineering

Chaitanya Bharathi Institute of Technology

Hyderabad - 500075

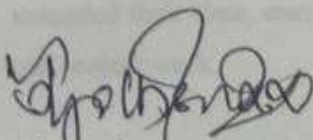
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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY(AUTONOMOUS)  
HYDERABAD-500075

## CERTIFICATE

This is to certify that the Project work entitled “**Estimation of IRNSS receiver bias using Fitted Receiver Bias Technique**” is a bonafide work carried out by **Pranav Karangula (160117735160), Rohit Varanasi (16017735163), Sai Abhishek Kodi (160117735164)** in partial fulfilment of the requirements for the degree of Bachelor of Engineering in Electronics and Communication Engineering, Osmania University, Hyderabad during the academic year 2020-21. The results embodied in this report have not been submitted to any other University or Institution for the award of any diploma or degree.

  
Supervisor

Smt. K.S.R.S. Jyothsna  
Assistant Professor  
Department of ECE



Dr. D. Krishna Reddy  
Professor and Head  
Department of ECE

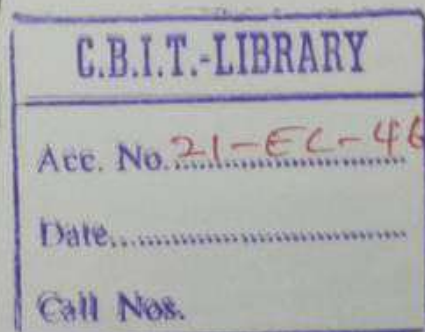
# DESIGN AND IMPLEMENTATION OF NAVIC BASED REEFER MONITORING SYSTEM

In the partial fulfillment of the requirement for the award of the degree of  
Bachelor of Engineering in Electronics and Communication Engineering

Submitted by

Sumanth Reddy Banswada	160117735313
Praneeth Reddy Nagilla	160117735315
Dileep Reddy Veeram	160117735317

Under the Supervision of  
Dr. A Supraja Reddy  
Associate Professor  
Dept. of ECE



Dept. of Electronics and Communication Engineering  
Chaitanya Bharathi Institute of Technology  
Hyderabad – 500075  
Year 2020-2021



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY(AUTONOMOUS)  
HYDERABAD-500075

## CERTIFICATE

This is to certify that the Project work entitled "*Design and Implementation of NavIC based Reefer Monitoring System*" is a bonafide work carried out by **Sumanth Reddy Banswada (160117735313)**, **Praneeth Reddy Nagilla (160117735315)** and **Dileep Reddy Veeram (160117735317)** in partial fulfilment of the requirements for the degree of Bachelor of Engineering in Electronics and Communication Engineering, Osmania University, Hyderabad during the academic year 2020-21. The results embodied in this report have not been submitted to any other University or Institution for the award of any diploma or degree.

Supervisor  
Dr. A Supraja Reddy  
Associate Professor  
Department of ECE

Head of Dept.  
Dr. D Krishna Reddy  
Professor and Head

DEPARTMENT OF ECE  
Department of ECE  
Chaitanya Bharathi Institute of Technology  
Hyderabad-500075



## Memorandum of Understanding

Between

**Hexagon Capability Center India Private Limited**

And

**Chaitanya Bharathi Institute of Technology, Hyderabad**

This Memorandum of Understanding is entered into and effective as of 25<sup>th</sup> July 2017, by and between:

"Hexagon Capability Center India Private Limited", a company incorporated under the provisions of the Companies Act, 1956, with its office at DivyaSree Trinity Campus, HITEC City, Madhapur, Hyderabad, India – 500 081, hereinafter called the "Hexagon" and represented by **Mr. Shankar Muthuswamy, Company Secretary**, acting in accordance with the Decision of the Board, which expression shall unless repugnant to the meaning or context thereof be deemed to mean and include its successors and permitted assigns of, on one part,

And

**Chaitanya Bharathi Institute of Technology**, (hereinafter referred to as "CBIT") having its Campus at Gandipet, Hyderabad and represented by **Mr. B Chennakeshava Rao, Principal**, acting in accordance with the decision of its Governing Body, on second part

### Recitals.

- a. **Hexagon** is in the business of Software development and other allied business for its Clients worldwide.
- b. **CBIT** is India's premier teaching cum research oriented institution offering various Technological Degrees
- c. Whereas CBIT is planning to set up a Lab center at CBIT campus in Gandipet Hyderabad, in order to impart practical knowledge and technical training in the cutting-edge technologies to the students which would enable them to gain hands on experience in the latest technologies employed in the Industries
- d. Whereas Hexagon under its CSR policy is committed to improving the quality of education which benefits the students in particular and the society in general by contributing to educational infrastructure, training and facilities through partnership with institutions, colleges, universities, and government and quasi-government agencies.

*B. Chennakeshava Rao*  
25/7/17

*Shankar Muthuswamy*

NOW THIS MEMORANDUM WITNESSETH as follows:

1. Hexagon and CBIT have agreed in principle to jointly setup a Lab at CBIT campus each with the following responsibilities:
  - a. Responsibilities of CBIT:
    - i. create/provide a proper Lab space in their campus to accommodate around 20 persons
    - ii. equip the Lab with proper furniture, light/electrical fittings, Lan and Internet cabling/connectivity
    - iii. to procure the required software licenses that are necessary for the training
    - iv. to take care of the Trainers' travel and stay expenses
    - v. any other expenses that may be required for an efficient functioning of the Lab which may be mutually discussed and agreed
  - b. Responsibilities of Hexagon:
    - i. Provide 20 desktops with monitors with appropriate configuration with OS and Office 2010 licenses
    - ii. Provide upgrades on hardware/software on need based
    - iii. any other expenses that may be required for an efficient functioning of the Lab which may be mutually discussed and agreed
2. **Confidentiality:** Each Party shall maintain complete confidentiality of any information of the other, disclosed ("Confidential Information"), either directly or indirectly in any form whatsoever including, but not limited to, in writing, in machine readable or other tangible form, orally or visually (subsequently reduced to writing). Both Parties undertake to (i) hold all such Confidential Information in strictest confidence, (ii) not to disclose such Confidential Information either in whole or in part to any person other than those of its officers, employees and agents who need to know the Confidential Information for the purpose authorized hereunder provided that each such officer, employee or agent has agreed in writing to maintain the confidentiality of the Confidential Information in accordance with the terms hereof or (iii) not to use such Confidential Information for any purpose whatsoever save as may be strictly necessary for the performance of this Agreement.
3. **Intellectual Property Rights:** IPR titles or ownership of any products, proprietary information or technology tools, processes, utilities, and methodology including any Hexagon proprietary products or components thereof used hereunder or development of any deliverables and all new ideas, inventions, innovations, or development conceived, developed, contributed, distributed or made by Hexagon hereunder, and all customizations, enhancement and modifications thereof, shall always remain with Hexagon and WILL NOT BE transferred from Hexagon to CBIT on account of use of the same as part of any work under this Memorandum, and
4. In no event shall either party be liable for any indirect, incidental, special, consequential damage, including, but not limited to, loss of profits, revenue, data or use, incurred by the other Party in connection with, arising out of or under this Memorandum save for any such loss suffered resulting from any willful and grossly negligent act or omission of either of the Parties.

 25/2/12



5. Neither this Memorandum, not any activities described herein, shall be construed as creating a partnership, joint venture, agency or other such relationship. Both Parties agree that this Memorandum represents a nonexclusive relationship between the Parties and nothing contained herein shall preclude either Party from participating / initiating similar relationship with third parties in future.
6. Neither Party shall issue any press release, public announcement or other such disclosure concerning this Memorandum without the other Party's prior written consent as to such release or announcement.
7. This Memorandum may not be amended without the prior written consent of both the Parties.
8. This Memorandum shall be effective from the effective date and shall be valid for a **term of 3 years**. This Memorandum can be renewed based on mutual convenience any time.
9. **Governing Law:** This Memorandum shall be governed by the laws of India, and the Courts in Hyderabad shall have exclusive jurisdiction.
10. **Termination:** Either Party can cancel or terminate this Memorandum unilaterally (and without reason), by giving an advance written notice of one (1) month to the other Party.
11. **Notices:** All notices, requests, demands and other communications under this Memorandum or in connection herewith shall be given to or made upon the respective Parties as follows:

<b>Hexagon</b>	: "Hexagon Capability Center India Private Limited" Plot No.5, DivyaSree Trinity Campus, HITEC City, Madhapur, Hyderabad, India – 500 081
<b>CBIT</b>	: Chaitanya Bharathi Institute of Technology, Ocean Park Rd, Kokapet Village, Gandipet Mandal, Rangareddy District, Hyderabad - 500075

Or to such other person or addresses as any of the Parties shall have notified to the others.

All notices, requests, demands and other communications given or made in accordance with the provisions of this Memorandum shall be in writing by letter, fax or telegram.

## 12. FORCE MAJEURE:

If either of the two Parties is prevented, restricted, delayed or interfered by reason of:

- a) Fire, explosion, cyclone, floods, droughts, earthquakes, epidemics;
- b) War, revolution, acts of public enemies, blockage or embargo, riots and civil commotion;

*Handwritten signature and date: 25/7/17*

*Handwritten signature*

- c) Any law, order, proclamation, ordinance or requirements of any Government or authority or representative of any such Government, including restrictive trade practices or regulations;
- d) Strikes, shutdowns or labor disputes which are not instigated for the purpose of avoiding obligations herein; or
- e) Any other circumstances beyond the reasonable control of the party affected, then notwithstanding anything here before contained, the party affected shall be excused from its performance to the extent such performance relates to prevention, restriction, delay or interference and provided the party so affected used its best efforts to remove such cause of non-performances, and when removed the party shall continue performance with the utmost dispatch.

Each of the Parties agrees to give written notice to the other Party upon becoming aware of an Event of Force Majeure, and mentioning details of the circumstances giving rise to the Event of Force Majeure as soon as possible, but not later than three (3) business days from the moment it became aware of.

- 13. Indemnity:** Each of the Parties shall defend, indemnify and hold the other Party harmless from and against any claim, liability, loss, costs or expenses (including reasonable Attorney's fees) arising out of or resulting from the material breach of the provisions herein.

**IN WITNESS WHEREOF THE** Parties have set their hands hereto on the day and year first hereinabove written under their respective seal of office.

**CBIT**

**Hexagon**

**"Hexagon Capability Center India Private Limited",**

DivyaSree Trinity Campus, HITEC City,  
Madhapur, Hyderabad, India – 500 081

(Signature)

**Mr. Shankar Muthuswamy,**  
**Director - Finance & Company Secretary**

(Signature)

**Mr. B Chennakeshava Rao,**  
**Principal, CBIT**

## MEMORANDUM OF UNDERSTANDING

The Memorandum of Understanding (MOU) is signed on 4th September, 2017.

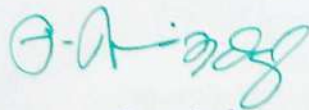
Between M/s DoTex Logistics Private Limited, Secunderabad, a company incorporated under the Indian Companies Act, 1956, having its Registered and Corporate office 75/P, Anand Nagar, Amar Jyoti Colony, New Bowenpally, Bowenpally, Secunderabad, Telangana, India, 500005 represented by its General Manager, Mr. A. Subramanyam referred to as the 'Company' (Which term shall unless repugnant to the context mean and include its successors-in-interest and permitted assignees) of the ONE PART.

AND:

CBIT - School of Management Studies, located at Gandipet, Hyderabad, represented by its Head-Industry Institution Interaction, Dr. P. Ravinder Reddy, Principal, hereinafter referred to as the 'Institute' (which term shall unless repugnant to the context mean and include his heirs, legal representatives, assignees, executors and administrators) of the SECOND PART: each a 'party' and collectively the 'parties'.

WHEREAS

The Company recognizes that it is desirous of providing **Career Guidance** to the students of the institute. This service will help students understand the job opportunities available to them in the all branches and subsidiaries of the Company across India and Abroad.



Principal

Chaitanya Bharathi Institute of Technology

(Autonomous)

Gandipet, Hyderabad-500 075.

AND

The Institute recognizes and accepts that the Career Guidance will facilitate unbiased dissemination of information to those students desirous to be placed in the Company, through **Internships, Mini Projects/Major Projects and Final Placements.**

Therefore, both the 'Company' and 'Institute' agree as follows:

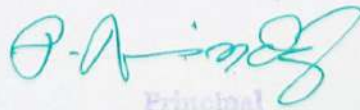
**Statement of Intent:**

Through this agreement, both the 'Company' and 'Institute' intends to facilitate collaboration and cooperation in the areas of mutual interest for the purpose of enhancing access to the Company Facilities and Services.

**Scope:**

Each Party agrees to give due consideration to any request to collaborate and cooperate on any of the following areas:

- On Campus Help Desk
- Internships to MBA students in the Company
- Career Guidance and pre-placement talks by the Company Officials to the students of the institute.
- Guest Lectures by the Industry Experts of the Company to the Students of the Institute.
- Campus Recruitment Drives by the Company to the Students of the Institute.
- Consultancy Projects/Assignments/Research Projects by the institute's Professors/Faculty Members for the benefit of the Company as a whole.
- Student Development and Training Programs
- Other such activities as may be mutually agreed upon



Principal

Chaitanya Bharathi Institute of Technology

(Autonomous)

Gandipet, Hyderabad-500 075.

**Activity Agreements:**

The Parties shall only undertake joint activities pursuant to a jointly-authored contact, properly signed by all parties.

**Duration:**

This Agreement takes effect on the date both Parties have signed for an initial period of 3 years renewed or terminated thereafter under mutual consent.

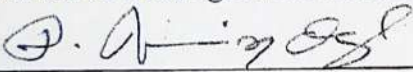
**Modification or Termination:**

This Agreement will become effective when signed by both parties. The agreement will remain in effect for three years from the signature date, below, and may be renewed or amended by mutual agreement of the parties. The parties agree to periodically review the activities undertaken and the progress made and to consult concerning amendments, renewal or termination of this Agreement. Either party may terminate this Agreement at any time by providing written notice of 'three months' such termination to the other party.

**Signature and Notices:**

*Accepted and Agreed*

**CBIT-School of Management Studies**

Signed: 

**Principal**

Chaitanya Bharathi Institute of Technology

Dr. P. RAVINDER REDDY  
Gandhinagar, Hyderabad-500 075.  
PRINCIPAL, Chaitanya Bharathi Institute of Technology,

Date: 04-09-2017

*Accepted and Agreed*

**M/s DoTex Logistics Private Limited ,**

**For DOTEX LOGISTICS PVT. LTD.**  
Signed: 

Mr. A. SUBRAMANIAN  
Authorized Signatory  
GENERAL MANAGER



# MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding (hereinafter referred to as MOU) is signed on **5<sup>th</sup> Jan, 2017** by and between

**CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY** herein referred as **CBIT (A)** located at Gandipet, Hyderabad-500075, (FIRST Party)

And

**SWECHA**, a non-profit for organization herein called SWECHA located at SVK, beside CGG, SY No. 91, Gachibowli, Hyderabad-32, (SECOND Party)

Whereas CBIT(A) is the first private engineering college in Telangana, established in 1979 was promoted with an objective to facilitate the Best Engineering Education to the Students.

SWECHA, a non-profit for organization founded in 2005 to support SWECHA project. It is community of Software users, students, academicians, and Software professionals/developers determined to provide quality software built on the guidelines of free software development models and it is part of Free Software Movement of India.

AND whereas, the parties recognize each other's competencies and hereto agree that a strategic relationship between them will mutually benefit each other.

**NOW this MOU aims to capture the understanding reached between SWECHA and CBIT (A) regarding each other's roles and responsibilities.**

## **I) UNDERSTANDING:**

This MOU is intended to cover a specific collaborative effort between SWECHA and CBIT(A) to make the student's industry ready by introducing several programs.

## **II) ROLES AND RESPONSIBILITIES:**

### **Role of SWECHA:**

- To provide awareness on Free and Open Source Software.
- Collaboration and guidance on curriculum development
- To create Research awareness through open knowledge systems, discussion sessions, open talks, seminars, guest lectures, Workshops, Faculty development Programs, Conferences etc.
- Technical support for infrastructure design and implementation.
- Industry-oriented training programs, Internships, Hackathons, social impact projects, community services.
- To explore the possibilities of mutual support between the Institute and Industry in learning, hiring, and research requirements based on mutual convenience.
- To provide offline and Online Training with Certifications on emerging technologies, Competitive Coding.
- To provide regular inputs for up-gradation of the Course curriculum to suit the



industry requirements.

**Role of CBIT (A):**

- CBIT shall provide infrastructure to support the activities.
- CBIT shall nominate one or two faculty members as SPOCs for the smooth conduction of events.
- CBIT shall give a minimum of two to three weeks prior information for conducting any program in association with SWECHA.
- CBIT shall give opportunity to host national or international events that are mutually benefit to each other.

III) GENERAL AND VALIDITY

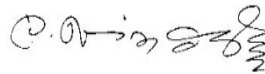
- a) The agreement between SWECHA and CBIT would be for a period of ONE year.
- b) This MOU may be amended, renewed, and terminated by mutual written agreement of the SWECHA and CBIT at any time with prior intimation.
- c) Unless otherwise agreed by the Parties separately in writing, each Party will be responsible for its own individual costs in conducting its duties and obligations under this MOU.
- d) Either SWECHA or CBIT shall have the right to terminate this MOU upon 60 days prior written notice to the other party.

**Summary:**

IN WITNESS WHEREOF, each of the parties hereto has caused this MOU to be duly executed by a duly authorised representative of such party as of the date first above written

**SWECHA**

**Chaitanya Bharathi Institute of Technology**



Signature:

Signature:

Name: D Bhuvan Krishna

Name: Dr.P.RAVINDER REDDY

Title: General Secretary

Title: Principal

Date: 5<sup>th</sup> Jan 2017

Date: 5<sup>th</sup> Jan 2017