

# **One Day National Workshop**

on

# "EMERGING TRENDS IN RENEWABLE ENERGY RESOURCES" 3rd August, 2019



Sponsored by RUSA- 2.0 Scheme (Through Ch.S.D.St. Theresa's College for Women, Eluru, West Godavari Dist., A.P.)



Organized by DEPARTMENT OF PHYSICS Sri Y.N.College (A), Narsapur In Association with IQAC

- > To debate best technical and sustainable options for increasing renewable energy and energy efficiency.
- Facilitate Research and Development in renewable energy and energy efficiency. **INVITATION TO:** Faculty, Academicians, Researchers & Students

#### **REGISTRATION:** • Faculty& Researchers: 300/-

· Students: 100/-

#### CONVENERS:

Dr. APV Appa Rao, M.Sc., M.Phil., Ph.D., HOD of Physics & Controller of Exams Cell Ph. No.: 9441077553.

Sri, J.Rama Mohan, M.Sc., M. Phil., Lecturer in Physics Cell Ph No : 9247457224

ORGANIZING SECRETARY: Dr.L.Malleswara Rao, M.Sc., M.Phil., Ph.D., Lecturer in Physics Cell Ph. No.: 9985137973.

**CO-CONVENERS:** Sri.P.Ramakrishna Rao, M.Sc., M. Phil., Lecturer in Physics Cell Ph. No.: 9849304924.

Sri. M Shankar, M.Sc., Dept of Physics Cell Ph. No.: 8639727388.

TREASURER: Miss ASS Jyothi M Sc Lecturer in Physics

EXECUTIVE MEMBERS: Smt. P Rajeswari, M.Sc Miss.G. Suvarchala Devi, M.Sc., Miss. K Nagendra Mani, B.Sc., Miss. B. Jhansi Lakshmi, M.Sc.,

#### ADVISORY COMMITTEE:

Dr.C.Satyanarayana Rao,

cretary & Corresponden Dr.K Venkateswarlu, Principal Smt.S.M. Maheswari, Vice Principal Dr.K Nageswara Rao, Coordinator, IQAC Sri. R. V. Subba Rao, Research Advisor, Vignan's University, Guntur and Former HOD, TC & QCD, IGCAR, Dept of Atomic Energy, Chennai.

#### **INVITED SPEAKERS:**

1. Prof. G. Bhagavannarayana, Dean, Research, VSM College, Ramachandrapuram and Ex-Chief Scientist, National Physical Laboratory (NPL), New Delbi

2. Dr Y Bharath Kumar Reddy, Additional General Manager, Solar Energy Corporation of India, New Delhi.

3. Dr P. Balaji Bhargav, Senior Research Scientist, SSN Research Centre, SSN Institutions, Chennai. 4. Sri. R. V. Subba Rao, Research Advisor, Vignan's University and Former HOD, TC&QCD, IGCAR, Dept of Atomic Energy, Chennai.

#### REGISTRATION FORM

| Name:                | ••••• |
|----------------------|-------|
| Designation:         |       |
| College/Institution: |       |
| Address:             |       |
| Contact Number: .    |       |
| E mail:              |       |
| Registration fee:    | DD No |
|                      | Date  |
|                      | Bank  |

Station: Date :

Signature of the Participant

**RUSA-2.0** Scheme (With the Financial assistance from Ch. S. D. St. Theresa's

College for Women, Eluru, West Godavari Dist. A.P) Sponsored

**One Day National Workshop** 

on **"EMERGING TRENDS IN RENEWABLE ENERGY RESOURCES**"

> 3<sup>rd</sup> August, 2019 9:00A.M to 4:00P.M



ORGANISED BY DEPARTMENT OF PHYSICS



SRI YN COLLEGE (AUTONOMOUS) NARSAPUR-534275 W.G. Dist., (A.P)

#### ABOUT THE COLLEGE:

Narsapur, a small semi - urban coastal town is situated on the banks of the sacred river Vasishta Godavari in West Godavari District of Andhra Pradesh. Sri Yerramilli Narayana Murty College, Narsapur was established in the year 1949 with the noble cause of serving people in the field of higher education. It is one of the oldest colleges in West Godavari District and has a prestigious history. It attained the status of a full-fledged Degree College in 1956 and has been elevated to Post Graduate level in the year 1989-90. With the untiring efforts of our present Secretary & Correspondent Dr C. Satyanarayana Rao, our college flourished with overall progress. The College celebrated Diamond Jubilee in 2010.

Our College has been accredited by NAAC Thrice at "A" grade. Our college has been selected for the award of "College with Potential for Excellence" by UGC.

UGC conferred Autonomous Status to our College in 2007. We are offering 13 certificate courses sponsored by UGC.

Since its inception, our college has been developing progressively with excellent and impressive infrastructure such as Administrative Block, Physical Sciences Block, Biological Sciences Block, MBA Block, MCA Block and Separate Library Buildings & Computer Labs for UG and PG; well equipped Science Laboratories, Language Labs and Commerce Lab for the overall development of our students. Gandhian Studies Centre sponsored by UGC, Women Empowerment Cell, Jawahar Knowledge Centre (JKC), HRD Centre, Yoga & Health Centre, Two E-Class Rooms, PG Seminar Hall, Two Solar supported decent women's hostels, a spacious Play Ground, Indoor Stadium, Multi Gym and Auditorium. With the valuable support, guidance and assistance

rendered by Andhra University, Adikavi Nannayya University, UGC, AICTE, Commissioner of Collegiate Education (CCE) and other educational authorities, the college evolved as a premier institute of Higher Education.

The College is offering 5 PG courses- MBA, MCA, M.Sc(Organic Chemistry), M.Sc(Mathematics) & M.A(English), 17 UG courses, 7 Intermediate Courses, B.Ed and D.Ed. The present students' strength of the college is about 3100.

#### ABOUT THE DEPARTMENT:

Introduction: The department of Physics came into existence in the year 1949 with Sri P V Somayajulu as the founder Head of the department. department was succeeded by the heads Sri B V S Suryanarayana, Sri Y Sundarasiva Rao, Sri S Gurumurthy, Sri T S Prasad, Sri K L N Rao and Dr ARS Kumar.

Dr APV APPA RAO took charge as head of the department in 2017. The department offers various courses such as B Sc - MPC (TM & EM), MPE (EM) and MPCs (EM).

#### Highlights of the Department:

The Faculty members are highly qualified with 2 doctorates and 2 M.Phils. Faculty members have actively participated in workshops / seminars and presented many number of papers in National and International journals. All the staff members are actively connected with academic extension and extracurricular activities. The department members are nominated in various committees drafted by the Secretary & Correspondent and Principal. Dr A P V Appa Rao acting as controller of examinations. Dr L. Malleswara Rao acting as Public Relation Officer (PRO) and Sri J Rama Mohan acting as Coordinator, NSDC, HRD centre of our college. Infrastructure:

The department is located in an area of 187.42 sq.mts. The lab is fully equipped and furnished with

apparatus and instruments to conduct B Sc-Physics practicals for all the three years of the course. A good number of old and new reference books are available in the department library. The lab has an internet facility through which our students get the advantage of ICT based learning of various es transmitted worldwide SCOPE OF THE WORKSHOP

India's population is increasing rapidly and it is expected to be the world's most populous country by 2020. India has the 5th largest power generation portfolio. As the country is facing a huge energy demand, there is a need to tap all the potential renewable energy resources. India is endowed with vast potential of renewable energy resources which are presently tapped upto 31.70 GW of the total installed capacity of 245 GW in the country. India is the fourth largest importer of oil and sixth largest importer of petroleum products. India's utilisation of renewable energy resources is expected to reduce the dependence on expensive imported fossil fuels. Economic growth, increasing prosperity, growing urbanization and rising per capita energy consumption along with the government's increasing role in the development of cleaner fuels, have widened role and importance of the renewable energy generation in India. India needs to fully exploit its potential in solar, hydro, wind and nuclear energy in order to have complete energy security for the n

#### **OBJECTIVES:**

- > To create awareness about renewable energy.
   > Understand the various forms of conventional energy resources
- > Learn the present energy scenario and the need for energy conservation
- > Analyse the environmental aspects of renewable energy resources
- > To encourage the preferential use of renewable energy.

Sri Y.N.College (AUTONOMOUS)



Thrice Accredited by NAAC at "A" Grade Recognized by UGC as "College with Potential for Excellence" NARSAPUR - 534275, W.G.Dt., A.P.

We cordially invite you to the inauguration of

**RUSA 2.0 Scheme** 

(Sponsored by Ch. S. D. St. Theresa's College for Women, Eluru)

National Workshop on

"EMERGING TRENDS IN RENEWABLE ENERGY RESOURCES"

on 3<sup>rd</sup> August, 2019 at 9.00 A.M. In the P G Seminar Hall. KEY NOTE ADDRESS

#### Prof. G. Bhagavannarayana

Dean, Research, VSM College, Ramachandrapuram and Ex-Chief Scientist, National Physical Laboratory (NPL), New Delhi kindly consented to be the Chief guest and inaugurate the Workshop.

GUESTS OF HONOUR

Dr. Y. Bharath Kumar Reddy Addl. General Manager, Solar Energy Corp. of India, New Delhi.

Dr. P. Balaji Bhargav Senior Research Scientist, SSN Research Centre, SSN Institutions, Chennai.

> Sri R. V. Subba Rao Research Advisor, Vignan's University and Former HOD, TC&QCD, IGCAR, Dept. of Atomic Energy, Chennai.

> > Sri G. V. K. Rama Rao Vice-President, Sri Y N College (A) will honour the guests.

Dr. C. Satyanarayana Rao

Secretary & Correspondent, Sri Y N College (A) will deliver the welcome address

> Dr. K. Venkateswarlu Principal, Sri Y N College (A)

will preside over the function

The Management, Principal,

Staff & students, DEPARTMENT OF PHYSICS

## VALEDICTORY FUNCTION

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on 3<sup>rd</sup> August, 2019 at 3.30 P.M. In the P G Seminar Hall.

Sri G. V. K. Rama Rao Vice-President, Sri Y N College (A) will preside over the function

Sri P. Sri Rama Rao Treasurer, Sri Y N College (A) will deliver the welcome address

## GUESTS OF HONOUR

Prof. G. Bhagavannarayana Dean, Research, VSM College, Ramachandrapuram and Ex-Chief Scientist, National Physical Laboratory (NPL), New Delhi.

Dr. Y. Bharath Kumar Reddy Addl. General Manager, Solar Energy Corp. of India, New Delhi.

Dr. P. Balaji Bhargav Senior Research Scientist, SSN Research Centre, SSN Institutions, Chennai.

## Sri R. V. Subba Rao

Research Advisor, Vignan's University and Former HOD, TC&QCD, IGCAR, Dept of Atomic Energy, Chennai.

#### Dr. K. Venkateswarlu Principal, Sri Y N College (A) will honour the guests

The Management, Principal, Staff & students DEPARTMENT OF PHYSICS

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## SRI Y N COLLEGE (A)

NARSAPUR, West Godavari District, Andhra Pradesh.

Affiliated to Adikavi Nannaya University, Rajamahendravaram Thrice Accredited by NAAC with 'A' Grade

Under the Scheme of

RASTRIYA UCHTAR SIKSHA ABHIYAN (RUSA - 2.0 Scheme)

With the Financial assistance from

Ch. S. D. St. Theresa's College for Women, Eluru, West Godavari Dist. A.P

## National Work Shop on "EMERGING TRENDS IN RENEWABLE ENERGY RESOURCES"

on 3<sup>rd</sup> August, 2019

Organized by

## **DEPARTMENT OF PHYSICS**



In Association with Internal Quality Assurance Cell (IQAC)



## **Self Declaration**

I hereby declare that the department of Physics of Sri Y N College, Narsapur, W.G.Dt. had successfully conducted One day national Workshop on "EMERGING TRENDS IN RENEWABLE ENERGY RESOURCES" 3<sup>rd</sup> August, 2019 from 9:00A.M to 4:00P.M

-A chan.

Signature of Convener (J RAMA MOHAN) Date 03-09-2019

## **CERTIFICATE**

This is to certify that the department of Physics of Sri Y N College, Narsapur, W.G.Dt. had fulfilled all the norms and successfully conducted One day national Workshop on "**EMERGING TRENDS IN RENEWABLE ENERGY RESOURCES**" 3<sup>rd</sup> August, 2019 from 9:00A.M to 4:00P.M with the financial assistance (Rs. 1,10,000/-, Rupees one lakh ten thousand only) from Ch. S. D. St. Theresa's College for Women, Eluru, West Godavari Dist. A.P., under the Scheme of **RASTRIYA UCHTAR SIKSHA ABHIYAN (RUSA - 2.0 Scheme)** with four resource persons with Chief guest, Prof. G Bhagavannarayana, Dean, Research, V S M College, Ramachandrapuram and Ex-Chief Scientist, National Physical Laboratory (NPL), New Delhi,

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**Signature of Convener** 

Principal

**RUSA Coordinator** 

RUSA Coordinator Ch. S. D. St. Theresa's College for Women, Eluru West Godavari Dist. A.P.

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## **ORGANIZING COMMITTEE**

### **CONVENERS:**

Dr. APV Appa Rao, M.Sc., M.Phil., Ph.D., HOD of Physics & Controller of Exams. Cell Ph. No.: 9441077553.

Sri. J.Rama Mohan, M.Sc., M. Phil., Lecturer in Physics Cell Ph. No.: 9247457224.

## **ORGANIZING SECRETARY:**

Dr.L.Malleswara Rao, M.Sc., M.Phil., Ph.D., Lecturer in Physics Cell Ph. No.: 9985137973.

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Sri.P.Ramakrishna Rao, M.Sc., M. Phil., Lecturer in Physics Cell Ph. No.: 9849304924.

Sri. M Shankar, M.Sc., Dept of Physics Cell Ph. No.: 8639727388.

**TREASURER:** Miss.ASS Jyothi, M.Sc., Lecturer in Physics

#### **EXECUTIVE MEMBERS:**

Smt. P Rajeswari, M.Sc., Miss.G. Suvarchala Devi, M.Sc., Miss. K Nagendra Mani, B.Sc., Miss. B. Jhansi Lakshmi, M.Sc.,

## **ADVISORY COMMITTEE:**

Dr.C.Satyanarayana Rao, Convener Secretary & Correspondent

#### **MEMBERS**:

Dr.K Venkateswarlu, Principal Smt.S.M. Maheswari, Vice Principal Dr.K Nageswara Rao, Coordinator, IQAC Sri. R. V. Subba Rao, Research Advisor, Vignan's University, Guntur & Former HOD, TC & QCD, IGCAR, Dept of Atomic Energy, Chennai. Sr.Showrilu K, Vice Principal & RUSA Coordinator Dr.A.Nirmala Jyothsna, HOD, Dept of Physics & Electronics Dr.K. Sreelatha, Asst. Professor, Dept of Physics

## **PROGRAMME SCHEDULE**

| Registration                | : 8:00A.M to 9:00 A.M  |
|-----------------------------|--|
|                             | SESSION I  |
| Inauguration                | : 9:00A.M to 9.45A.M.<br>SESSION II  |
| Guest Lecutre<br>Tea Break  | : 9:45A.M to 11:15 A.M<br><b>Prof. G Bhagavannarayana</b> , Dean, Research, VSM College,<br>Ramachandrapuram & Ex-Chief Scientist, NPL,<br>New Delhi.<br>: 11:15 A.M to 11:30 A.M                            |
|                             | SESSION III  |
| Invited talk<br>Lunch Break | <ul> <li>: 11:30A.M to 12:30 P.M</li> <li>Dr Y Bharath Kumar Reddy, Additional General Manager, Solar<br/>Energy Corporation of India, New Delhi.</li> <li>: 12:30P.M to 1:15 P.M.</li> </ul>                |
|                             | SESSION IV   |
| Invited talk                | : 1:15P.M to 2:15 P.M<br>Dr P Balaji Bhargav, Senior Research Scientist, SSN<br>Research Centre, SSN Institutions, Chennai.  |
|                             | SESSION V  |
| Invited talk<br>Tea Break   | <ul> <li>: 2:15P.M to 3:15 P.M</li> <li>Sri. R V Subba Rao, Research Advisor, Vignan's University and<br/>Former HOD, TC &amp; QCD, IGCAR, Dept of Atomic Energy.</li> <li>: 3:15 P.M to 3:30 P.M</li> </ul> |
|                             | SESSION VI   |
| Valedictory Funcito         | on: 3:30P.M to 4:00 P.M  |

## REGISTRATION

## 8AM TO 9AM

The process of registration for the workshop has started at 8AM. Teaching staff and students from various colleges registered on spot for the programme in the given schedule. Forty three faculty members and seven students from other colleges were registered through payment of necessary fee. Faculty members of various departments and final year degree students of our college were participated with great zeal and enthusiasm. Students were given assignment to prepare a overall report of the workshop.

## SESSION I: 9AM TO 9.45AM

## **INAUGURATION**

The programme was started at 9AM as per the schedule in PG Seminar hall of Sri Y N College. Miss. A S S Sai Jyothi, Treasurer of the programme invited the dignitaries on to the dias. The programme began with Prayer sung by Miss. P Nagini, Miss. K Tanuja Devi and Miss. O Satyavathi of II B.Sc. (MPCs) students.



**Chief Guest, Prof. G Bhagavannarayana**, Dean, Research, VSM College, Ramachandrapuram & Ex-Chief Scientist, NPL, New Delhi lighting the holy lamp.

Prof. G. Bhagavannarayana, lighted the holy lamp to inaugurate the Work Shop and announced the commencement of the programme. Dr. K Venkateswarlu, Member, Advisory Committee of the Workshop & Principal of the college acted as president of the Workshop. He delivered the opening remarks and explained various aspects and scope of the programme. Dr. Ch. Satyanarayana Rao, Convener, Advisory Committee of the Workshop & Secretary and Correspondent of the college, invited all the dignitaries through his 'Welcome Address'. Dr. A P V Appa Rao, Head of the Department of Physics and Convener of the Workshop explained the need for the adoption of renewable energy resources and theme of the workshop.



Prof. G. Bhagavannarayana, delivered a presentation which lead inspiration for the topic of the workshop. He stressed the necessity for looking forward in utilizing the renewable energy

**Prof. G. Bhagavannarayana**, delivered a presentation which lead inspiration for the topic of the workshop. He stressed the necessity for looking forward in utilizing the renewable energy resources.

## SESSION II: 9.45AM TO 11.15AM

## Keynote address by the Chief Guest



Prof. G. Bhagavannarayana, delivered *Keynote address* in the second session with Topic, "Renewable energy harvesting, storage and conservation- An overview on various methods from conventional to nanotechnology"

### **Biographical sketch of Dr. G. Bhagavannarayana**

Prof. G. Bhagavannarayana born in Machara, EG. Dt., did his M.Sc. from Andhra University and Ph.D. from University of Delhi under the supervision of Prof. Trigunayat, Delhi Univ. and Prof. Krishna Lal, Ex-Director, NPL and Ex-President, INSA, Delhi. He served over 32 years as scientist at various levels (including HOD of Sophisticated Analytical Instruments Division) at CSIR-National Physical Laboratory (NPL). New Delhi. He superannuated from NPL on 31-05- 2015 as a Chief scientist & Professor, and Head Crystal Growth & X-ray Analysis activity and later served as Prof. in Phys, K L University (taught Nano Science and Technology). During 16-1-2016 to 12-02-2018, he served as Director for the R K Valley branch of Rajiv Gandhi University of Knowledge Technologies, AP. His main research areas are growth of device quality nonlinear optical and highenergy radiation detector bulk single crystals by solution and melt techniques and characterization of as grown and processed single crystals, epitaxial layers including hetero bipolar transistor & quantum structures and their devices by various high-resolution X-ray diffraction and scattering techniques. So far, he published more than 300 research articles in high impact factor international SCI journals with more than 6500 citations and 38 h-factor. He also published 60 papers in Proceedings. Two of his research articles were selected in the top 70 outstanding scientific articles out of the 80,000 SCI articles published by CSIR in 70 years in all areas of research compiled on the auspicious occasion of its 70th year of establishment on Sept. 26, 2012. He has delivered more than 120 R&D and academic invited lectures, key note/plenary lectures and chief guest addresses at different prestigious National/Intl. Conferences/institutions in the country and abroad. During 2011 to 2015 he was teaching M.Tech and Ph.D. students in the newly started "Academy of Scientific and Innovative Research" (ACSIR) programme by CSIR. He is a recipient of MRSI (Materials Research Society of India) best paper award and Prof. P. Ramasamy National Award for Crystal Growth from the Indian Association of Crystal Growth. A patent has been granted for the development of a new non-thermal annealing technique for the fabrication of shallow p-n junctions. He developed a state-of-the-level multicrystal X-ray diffractometer and invented two characterization techniques (i) to characterize epitaxial films for determination of relaxation and composition by a combined X-ray and Raman method and (ii) to determine the crystallographic orientation of surfaces of single crystals or wafers by high resolution XRD. He established many formal collaborations with various R&D and academic institutes like Anna University, SSN College of Engg., Chennai, VIT University, Vellore, Annamalai University, Madurai Kamaraj University, Bharatidasan University, S.T. Hindu College, Nagercoil, Loyola & Presidency Colleges, Chennai, Govt. College (A), Rajahmundry, Delhi University, LASTEC, Delhi, RRCAT, Indoor etc. and guiding many young researchers through his expertise and by giving lectures on different platforms.

## **Outline of the talk**

- I. Renewable energy Generation:
- (i) Micro power generation through Piezoelectric Generators
- (ii) Geothermal power plants
- (iii) Micro-hydro-electric power plants
- (iv) Biogas Fuel to generate heat or electricity
- (v) The development of wind power
- (vi) Power generation through fuel cells
- (vii) Bio-fuel development for renewable energy
- (viii) Photo electrochemical cell through artificial photosynthesis
- (ix) Photovoltaic Solar Power plants using bulk single crystal wafers
- (x) Thin film (Single Junction & Multi-junction) solar cells
- (xi) Organic Photovoltaic Cells
- (xii) Dye Sensitized Solar Cells
- (xiii) Quantum Dot Sensitized solar cells
- (xiv) Perovskite Solar Cells

- II. Storage of Energy using CNTs in Super-capacitors
- III. Conservation of energy through the advanced technologies:
- (i) Energy conservation through advanced Light Emitting Diods (LEDs)
- (ii) Energy conservation through superconducting material



Prof. G Bhagavannarayana interacting with the students.

He enlightened the gathering how one can generate renewable energy through various opportunities available for us. He also explained how the energy generated can be stored by making use of the present day research. He interacted with the students, delegates and the members at the end of his *keynote address*. We got an excellent feedback for his talk.

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After the completion of *Keynote address*, a small break for tea and snacks was announced for about 15 minutes i.e., from 11.15AM to 11.30AM.

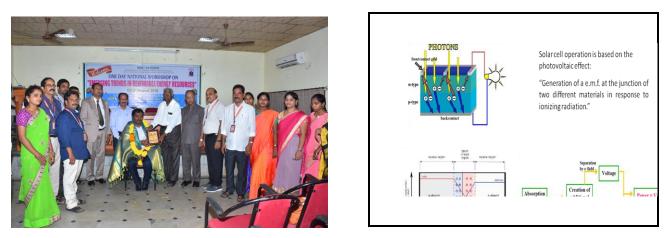
## SESSION III: 11.30AM TO 12.30 PM <u>1<sup>ST</sup> INVITED TALK</u>

The first invited talk was presented by Dr. Y Bharat Kumar Reddy, Additional General Manager, Solar Energy Corporation of India, New Delhi.

## **Biographical sketch of Dr. Y B K Reddy**

Dr. Reddy has wide experience in Solar Photovoltaics in both technical and commercial areas. HE has completed MSC, PhD from at Sri Venkateswara University, Tirupati. He has worked on CIGS thin film solar technology for his doctoral thesis. Before joining SECI he has worked at Sujana Energy Limited, Hyderabad as Technical head, Moser Baer India Limited, Greater Noida as R&D Manager, National University of Singapore and IIT Chennai as Post-doctoral researcher. He has published more than 20 research publications and granted with 2 patents.

Currently he is working as AGM (Solar) at SECI, and taking care of the technical aspects of all types of solar PV systems, Solar projects with storage, Solar-wind hybrid projects, solar radiation assessment and forecasting studies etc. He is also taking care of Project management consultancy and project development activities at SECI.



He presented his talk on the topic "Solar Photovoltaic technologies Fundamentals and Commercial Success" He presented various technologies employed in fabricating the photo voltaic cells. He explained different generations in the development of photo voltaic cells. He elaborated alternate technologies through present day research, for improving the efficiency of PV cells. He explained about the upcoming technologies in establishing the necessary equipment for utilizing solar energy for conversion into electric energy. He presented in a pleasant way how the solar power projects can be established in various fields. We got a tremendous feedback for his presentation.

A working lunch was arranged between 12.30PM and 1.15PM for all the delegates and students.

## SESSION IV: 1.15PM TO 2.15PM <u>2<sup>nd</sup> INVITED TALK</u>

The second invited talk was presented by Dr. P. Balaji Bhargav, Senior Research Scientist, SSN Research Centre, SSN Institutions, Chennai.

## Biographical sketch of Dr. P. Balaji Bhargav

Dr. P. Balaji Bhargav, Research Scientist, SSN Research Center has 10 years of research and teaching experience. He received M.Sc (Physics) degree from Sri Venkateswara University, Tripathi, Andhra Pradesh with Specialization in Solid State Physics and Ph.D from the same university. He carried out research work on preparation and characterization of solid polymer electrolyte membranes for electrochemical cell applications.

After completion of his Ph.D, he worked in the field of Polymer electrolyte membrane fuel cell (PEMFC) at Yuan Ze Fuel Cell Center, Taiwan for one year as Postdoctoral fellow. He published 30 research publications in refereed international journals and participated in several national and international conferences.

Currently he is working in the fields of Amorphous silicon based thin film solar cells, Nanostructured Silicon based anode materials for Lithium ion battery applications, Development of transparent conducting electrode materials (Graphene, GZO,AZO, Ag nanowires) and Synthesis of metal-oxide nanostructures for Optoelectronic applications.



He presented his talk on the topic "Devices for Conversion and Storage of Energy". He explained various methods of fabricating solar energy storage devices. He elucidated the present day research carrying out on different types of energy storage devices. He presented detailed explanation of synthesizing most efficient renewable energy storage devices.

## SESSION V: 2.15PM TO 3.15PM 3<sup>RD</sup> INVITED TALK

The third invited talk was presented by Mr. R V Subbarao, Research Advisor, Vignan's University and Former HOD, TC & QCD, IGCAR, Dept of Atomic Energy.

## **Biographical sketch of Mr. R V Subbarao**

R.V. Subba Rao did his M. Sc (Physics) in Andhra University, Visakhapatnam and joined the 24<sup>th</sup> batch of the BARC Training School in 1980. After successfully completing the training, he joined the Metallurgy and Materials Group of Indira Gandhi Centre for Atomic Research (IGCAR), Kalpakkam. He specialized in the areas of Surface Analysis and Laser Surface Modification. He was associated in the development of the Country's first *indigenous Scanning Auger Microprobe* built by Bhabha Atomic Research Centre (BARC) in the earlier years of his career and worked on its upgradation at IGCAR. He has also successfully adopted the *indigenously built Multibeam CO*<sub>2</sub> *Laser System* for R&D works of surface modification of structural materials for improving corrosion and oxidation resistance. He has carried out certain very specific assignments of strategic nature for the Department and was responsible for increasing the lifetime of a key component.

He was in IFW, Dresden, Germany for one year on deputation and after returning back he established a sophisticated surface characterization laboratory equipped with *X-ray Photoelectron Spectroscopy and Laser Raman Microscopy* facilities for carrying out passivation studies at Corrosion Science and Technology Group. He has contributed to the process development of fluoride passivation of maraging steels for RMP, Mysore plant and in evolving the chemical cleaning procedure of PFBR-Steam Generator tubes at L&T shop floor during fabrication stage. He has published about 70 papers in reputed International and National Journals and edited a couple of books. He organized several International Conferences and served in the Editorial Board of the Annual Reports of the Research Centre for over 8 years. He took charge of the IGCAR Campus of the BARC Training School for a couple of years and later moved to a strategic Planning works of FRFCF he was assigned the responsibilities of **Head**ing the **Technical Coordination &Quality Control Division** located inside BARC, Mumbai and so he had to relocate to Mumbai and he laid down his office from Mumbai after completing 36 years of Glorious Service in the Department of Atomic Energy.

Currently he is **Research Advisor** to Vignan's Foundation for Science, Technology and Research, **VFSTR** (Deemed to be University), Vadlamudi, Guntur Dt., Andhra Pradesh



- Country of 1.1 billion people with population likely to stabilize at 1.5 billion by 2050.
- 6<sup>th</sup> largest producer of electricity in the world.
- Given our large population the per capita electrical consumption continues to be very low (1/6 of world average).
- To reach at least the world average standards and to meet the needs of our growing population power generation has to be increased many folds.
- For such large requirements all sources of energy have to be deployed.
- Presently 86% of our electricity needs are met by burning coal/oil.
- However the coal/oil option, has severe global impacts on environment and commerce in addition to huge infrastructure needs.
- In our energy mix nuclear energy role has to be increased in addition to hydro and nonconventionals.

He presented his talk on the topic "Atomic Energy for Energy Security and for Enhancing Quality of Life". He stressed the necessity for the usage of atomic energy as an alternative source of non-renewable energy resources. He reported that the atomic energy generation by using Thorium will be very cheaper, as it is available abundantly in our country. He explained and announced that no one can be panic in utilizing the nuclear power.

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After the completion of *all the invited talks*, a small break for tea and snacks was given for about 15 minutes i.e., from 3.15PM to 3.30PM.

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### SESSION VI: 3.30PM TO 4.00PM

#### **VALEDICTORY FUNCTION & DISTRIBUTION OF CERTIFICATES**

The programme was started at 3.30pm as per the schedule. Miss. A S S Sai Jyothi, Treasurer of the programme invited the dignitaries on to the dias. The programme began with Prayer sung by Miss. T Naga Peddintlu and Miss. JVSSLB Nikhila of III B.Sc. (MPE) students. Mr. G V K Rama Rao, Vice President of our college presided over the valedictory function. He appreciated all the resource persons along with the chief guest for their valuable presence and participation in the National

Workshop. He advised the participants to follow the talks and be useful for the overall development of the nation. He proclaimed that the programme became grand success and the theme of the programme was fulfilled. Then, the delegates were presented with the certificates by the Chief Guest, Prof. G Bhagavannarayana. Finally, vote of thanks was presented by Mrs. P Rajeswari, Executive member of the Workshop and Lecturer in Physics of our college. Then, National anthem was sung by all the participants along with Miss. K Subhashini and Miss P Parvathi Naga Sudha of III MPCs. students.





Distribution of Workshop Participation certificate to Participants by Resource Person Prof. G. Bhagavannarayana & RV Subba Rao and Vice President in the valedictory function

## **CONCLUSION**

The one day national workshop on "Emerging Trends in Renewable Energy Resources" was conducted by Department of Physics of Sri Y N College, Narsapur on 3<sup>rd</sup> August, 2019 successfully with financial support from Ch. S D St. Theresa's College for women, Eluru under RUSA-2.0 scheme. Four eminent personalities form various fields attended as resource persons and enlightened

the participants. About 84 delegates registered for the workshop and 99 students registered for the workshop. The management members and participants expressed gratefulness for the performing the workshop in a pleasurable manner. The students of our and other colleges interacted with the resource persons and benefitted in getting acquaintance with the present day research work of getting and storing the renewable energy from various sources.



## **GUESTS OF HONOUR**

Felicitations to Prof. G Bhagavannarayana, Chief Guest by Staff and Management.



Felicitations to Dr. Y Bharat Kumar Reddy, Guest Speaker



Felicitations to Dr. P Balaji Bhargav, Guest Speaker



Felicitations to Mr. R V Subbarao, Guest Speaker



Group photo of faculty of Department of Physics with Resource persons and Management members.



Participants with resource persons at a glance.

| Sale of | Affiliated to Aadikavi Nannaya University, Rajamahendravaram).<br>hrice Accredited by NAAC at "A" Grade<br>Recognized by UGC as "College with Potential for Excellence"<br>NARSAPUR - 534275, W.G.Dt., A.P. |          |
|---------|---|----------|
| C       | RUSA - 2.0 SCHEME<br>(Sponsored by Ch. S. D. St. Theresa's College for Women (Autonomous)<br>(NAAC A+ (3.56 CGPA) 4 <sup>th</sup> Cycle, ISO9001-2015, Eluru, West Godavari Dist. A.P)                      | NC2NE IN |
| G       | Certificate of Participation  | I CON    |
| CISS-   | This is to Certify that Smt. P. Rajeswari, Lecturer in Physics,   | 312      |
| T       |   |          |
|         | organised by<br>Department of Physics, Sri YN College(A), Narsapur<br>on 3rd August, 2019.  |          |
| No.     | Organising Secretary Convener   | の国人の消費   |

| To dobate best technical and sustainable<br>options for increasing renewable energy and<br>energy efficiency.     ADVISORY COMMITTEE:<br>precision of the precision of the pre-<br>servery & Correspondent<br>precision of the precision of the pre-<br>sudents     ADVISORY COMMITTEE:<br>precision of the pre-<br>servery & Correspondent<br>precision of the pre-<br>servery & Correspondent<br>precision of the pre-<br>sudents     Dr. K Venkateswarti, Principal<br>precision of the   |
|--|
| and sustainable A<br>able energy and<br>bevelopment in<br>fficiency.<br>Researchers &<br>Researchers &<br>IP<br>Iler of Exams.<br>Iler of Exams.<br>I.Phil., Ph.D.,<br>M.Phil., Ph.D.,<br>.: 9985137973.   |
| technical and sustainable<br>asing renewable energy and<br>rch and Development in<br>and energy efficiency.<br>lennicians, Researchers &<br>lennicians, Researchers |
| technical and sustainable<br>asing renewable energy and<br>reh and Development in<br>and energy efficiency.<br>lennicians, Researchers &   |
|  |



(With the Financial assistance from Ch. S. D. St. Theresa's College for Women, Eluru, West Godavari Dist. A.P) **One Day National Workshop RUSA-2.0** Scheme Sponsored 1

"EMERGING TRENDS IN RENEWABLE ENERGY RESOURCES" on

3rd August, 2019 9:00A.M to 4:00P.M



ORGANISED BY

DEPARTMENT OF PHYSICS



SRI YN COLLEGE (AUTONOMOUS)

NARSAPUR-534275 W.G. Dist., (A.P)

# **ABOUT THE COLLEGE:**

of our present Secretary & Correspondent Dr C overall progress. The College celebrated Diamond Satyanarayana Rao, our college flourished with level in the year 1989-90. With the untiring efforts in 1956 and has been elevated to Post Graduate attained the status of a full-fledged Degree College Godavari District and has a prestigious history. It education. It is one of the oldest colleges in West noble cause of serving people in the field of higher Narsapur was established in the year 1949 with the Pradesh. Sri Yerramilli Narayana Murty College Godavari in West Godavari District of Andhra situated on the banks of the sacred river Vasishta Narsapur, a small semt - urban coastal town is

at "A" grade. Our college has been selected for the Our College has been accredited by NAAC Thrice Jubilee in 2010.

- UGC conferred Autonomous Status to our College by UGC. award of "College with Potential for Excellence"
- in 2007. We are offering 13 certificate courses sponsored by UGC.

Indoor Stadium, Multi Gym and Auditorium. With Rooms, PG Seminar Hall, Two Solar supported decent women's hostels, a spacious Play Ground Cell, Jawahar Knowledge Centre (JKC), HRD Centre sponsored by UGC, Women Empowerment development of our students. Gandhian Studies Separate Library Buildings & Computer Labs for Centre, UG and PG; well equipped Science Laboratories, Sciences Block, MBA Block, MCA Block and impressive infrastructure such as Administrative Language Labs and Commerce Lab for the overall Block, developing progressively with excellent and Since its inception, our college has been Yoga & Health Centre, Two E-Class Physical Sciences Block, Biological

the valuable support, guidance and assistance

of Higher Education. authorities, the college evolved as a premier institute Collegiate Education (CCE) and other educational University, rendered by Andhra University, Adikavi Nannayya UGC, AICTE, Commissioner of

strength of the college is about 3100. ABOUT THE DEPARTMENT: M.Sc(Organic Chemistry), M.Sc(Mathematics) & The College is offering 5 PG courses- MBA, MCA. Courses, B.Ed and D.Ed. The present students M.A(English), 17 UG courses, 7 Intermediate

ARS Kumar. Gurumurthy, Sri T S Prasad, Sri K L N Rao and Dr Suryanarayana, Sri Y Sundarasiva Rao, Sri S department was succeeded by the heads Sri B V S as the founder Head of the department. existence in the year 1949 with Sri P V Somayajulu Introduction: The department of Physics came into The

and MPCs (EM). courses such as B Sc - MPC (TM & EM), MPE (EM) department in 2017. Dr APV APPA RAO took charge as head of the The department offers various

sq.mts. The lab is fully equipped and furnished with (PRO) and Sri J Rama Mohan acting as Coordinator, NSDC, HRD centre of our college. Secretary & Correspondent and Principal. Dr A P V Malleswara Rao acting as Public Relation Officer Appa Rao acting as controller of examinations. Dr L. are nominated in various committees drafted by the extracurricular activities. The department members actively connected with academic extension and actively participated in workshops / seminars and doctorates and 2 M.Phils. Faculty members have The department is located in an area of 187.42 Intrastructure: International journals. All the staff members are The Faculty members are highly qualified with 2 presented many number of papers in National and **Highlights of the Department:** 

> advantage of ICT based learning of available in the department library. The lab has an apparatus and instruments to conduct B Sc-Physics programmes transmitted worldwide. internet facility through which our students get the good number of old and new reference books are practicals for all the three years of the course. A various

role in the development of cleaner fuels, have energy in order to have complete energy security for widened role and importance of the renewable the nation. exploit its potential in solar, hydro, wind and nuclear energy generation in India. India needs to fully consumption along with the government's increasing urbanization and rising per capita energy Economic growth, increasing prosperity, growing dependence on expensive imported fossil fuels demand, there is a need to tap all the potential portfolio. As the country is facing a huge energy expected to be the world's most populous country by importer of petroleum products. India's utilisation of are presently tapped upto 31.70 GW of the total vast potential of renewable energy resources which renewable energy resources. India is endowed with 2020. India has the 5<sup>th</sup>largest power generation India's population is increasing rapidly and it is SCOPE OF THE WORKSHOP: renewable energy resources is expected to reduce the the fourth largest importer of oil and sixth largest installed capacity of 245 GW in the country. India is

# **OBJECTIVES:**

- Understand the various forms of conventional To create awareness about renewable energy.
- energy resources.
- Learn the present energy scenario and the need
- Analyse the environmental aspects of renewable for energy conservation
- energy resources.
- energy To encourage the preferential use of renewable



Sri Y.N.College (AUTONOMOUS) Thrice Accredited by NAAC at "A" Grade Recognized by UGC as "College with Potential for Excellence"

NARSAPUR - 534275, , W.G.Dt., A.P.

INAUGURAL FUNCTION
We cordially invite you to the inauguration of

RUSA 2.0 Scheme

(Sponsored by Ch. S. D. St. Theresa's College for Women, Eluru)

National Workshop on "EMERGING TRENDS IN RENEWABLE ENERGY RESOURCES"

on 3rd August, 2019 at 9.00 A.M. In the P G Seminar Hall.

KEYNOTE ADDRESS

Prof. G. Bhagavannarayana Dean, Research, VSM College, Ramachandrapuram and Ex-Chief Scientist, National Physical Laboratory (NPL), New Delhi. kindly consented to be the Chief guest and inaugurate the Workshop.

GUESTS OF HONOUR

Dr. Y. Bharath Kumar Reddy Addl. General Manager, Solar Energy Corp. of India, New Delhi.

Dr. P. Balaji Bhargav Senior Research Scientist, SSN Research Centre, SSN Institutions, Chennai.

> Sri R. V. Subba Rao Research Advisor, Vignan's University and Former HOD, TC&QCD, IGCAR, Dept. of Atomic Energy, Chennai.

> > Sri G. V. K. Rama Rao Vice-President, Sri Y N College (A) will honour the guests.

Dr. C. Satyanarayana Rao Secretary & Correspondent, Sri Y N College (A) will deliver the welcome address

Dr. K. Venkateswarlu Principal, Sri Y N College (A) will preside over the function

> The Management, Principal, Staff & students, DEPARTMENT OF PHYSICS

# 6296

## VALEDICTORY FUNCTION

on 3rd August, 2019 at 3.30 P.M. In the P G Seminar Hall.

Sri G. V. K. Rama Rao Vice-President, Sri Y N College (A) will preside over the function

Sri P. Sri Rama Rao Treasurer, Sri Y N College (A) will deliver the welcome address

## GUESTS OF HONOUR

Prof. G. Bhagavannarayana Dean, Research, VSM College, Ramachandrapuram and Ex-Chief Scientist, National Physical Laboratory (NPL), New Delhi.

Dr. Y. Bharath Kumar Reddy Addl. General Manager, Solar Energy Corp. of India, New Delhi,

Dr. P. Balaji Bhargav Senior Research Scientist, SSN Research Centre, SSN Institutions, Chennai.

> Sri R. V. Subba Rao Research Advisor, Vignan's University and Former HOD, TC&QCD, IGCAR, Dept of Atomic Energy, Chennai.

> > Dr. K. Venkateswarlu Principal, Sri Y N College (A) will honour the guests

> > > The Management,Principal, Staff & students DEPARTMENT OF PHYSICS

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## **PROVIDED BILLS**



## **DEPARTMENT OF PHYSICS** SRI Y.N.COLLEGE (AUTONOMOUS)-NARSAPUR (Affiliated to Adikavi Nannaya University) Thrice Accredited by NAAC at 'A' Grade Recognized by UGC as 'College with Potential for Excellence' **RUSA-2.0 SCHEME** (With the Financial assistance from Ch. S. D. St. Theresa's College for Women, Eluru, West Godavari Dist. A.P) STATEMENT OF EXPENDITURE UNDER WORKSHOP (For the period from 01-06-2019 to 24-8-2019)

10

| File No.                         |   |
|----------------------------------|---|
| Title of the Workshop & date     | EMERGING TRENDS IN RENEWABLE ENERGY<br>RESOURCE, 3rd August, 2019 |
| Name of convenor                 | Sri J Rama Mohan, Lecturer in Physics                             |
| Name of the Organising secretary | Dr L Malleswara Rao, Lecturer in Physics                          |

#### **RECEIPTS AND PAYMENTS ACCOUNT**

| RECEIPTS   |             | PAYMENTS   |                                    |  |
|--|-------------|--|------------------------------------|--|
| To Opening balance   | NIL         | By Pre-programme expenditure   | 25,055-00                          |  |
| Grant received from RUSA 2.0<br>from Ch. S. D. St. Theresa's<br>College for Women, Eluru<br>through Sri Y. N. College,<br>Narsapur | 1,10,000-00 | TA,DA & Honorarium<br>Expenditure at the Programme<br>Post programme expenditure | 54,317-00<br>43,976-00<br>3,150-00 |  |
| Registration   | 13,600-00   |  |                                    |  |
| Advance by Convenor  | 2,898-00    |  |                                    |  |
| Total  | 1,26,498-00 | Total  | 1,26,498-00                        |  |

m lest Convener



#### DEPARTMENT OF PHYSICS SRI Y.N.COLLEGE (AUTONOMOUS)-NARSAPUR (Affiliated to Adikavi Nannaya University) Thrice Accredited by NAAC at 'A' Grade Recognized by UGC as 'College with Potential for Excellence'



RUSA-2.0 SCHEME (With the Financial assistance from Ch. S. D. St. Theresa's College for Women, Eluru, West Godavari Dist. A.P) STATEMENT OF EXPENDITURE UNDER WORKSHOP (For the period from 01-06-2019 to 24-8-2019)

| File No.                         |  |
|----------------------------------|--|
| Title of the Workshop &          | EMERGING TRENDS IN RENEWABLE ENERGY      |
| date                             | RESOURCE, 3rd August, 2019               |
| Name of convenor                 | Sri J Rama Mohan, Lecturer in Physics    |
| Name of the Organising secretary | Dr L Malleswara Rao, Lecturer in Physics |

#### INCOME AND EXPENDITURE

| Expenditure  |                                    | Income  |             |
|--|------------------------------------|---|-------------|
| To Pre-programme expenditure   | 25,055-00                          |   |             |
| TA,DA & Honorarium<br>Expenditure at the Programme<br>Post programme expenditure | 54,317-00<br>43,976-00<br>3,150-00 | By Grant received from RUSA<br>2.0 from Ch. S. D. St. Theresa's<br>College for Women, Eluru<br>through Sri Y. N. College,<br>Narsapur | 1,10,000-00 |
|  |                                    | Registration  | 13,600-00   |
|  |                                    | Excess of expenditure towards<br>workshop   | 2,898-00    |
| Total  | 1,26,498-00                        | Total   | 1,26,498-00 |

All Convener DOLLEGE (410

#### DEPARTMENT OF PHYSICS SRI Y.N.COLLEGE (AUTONOMOUS)-NARSAPUR (Affiliated to Adikavi Nannaya University) Thrice Accredited by NAAC at 'A' Grade



Thrice Accredited by NAAC at 'A' Grade Recognized by UGC as 'College with Potential for Excellence' RUSA-2.0 Scheme

RUSA-2.0 Scheme (With the Financial assistance from Ch. S. D. St. Theresa's College for Women, Eluru, West Godavari Dist. A.P) STATEMENT OF EXPENDITURE UNDER WORKSHOP (FINANCIAL YEAR 2019-2020)

| File No.                         | F.MRP-325/2019 (W/S/C//RUSA 2.0-STC)                              |
|----------------------------------|---|
| Title of the Workshop & date     | EMERGING TRENDS IN RENEWABLE ENERGY RESOURCES<br>3rd August, 2019 |
| Name of convenor                 | Sri J Rama Mohan, Lecturer in Physics                             |
| Name of the Organising secretary | Dr L Malleswara Rao, Lecturer in Physics                          |

| THE . | Sanction<br>No. &<br>Date           | Amount<br>of Grant<br>Sanction<br>ed from<br>RUSA | Grant/income<br>from other<br>sources<br>including<br>registration fee | Total<br>Income<br>from all<br>sources<br>(Rs.) | Total<br>Expenditure<br>incurred<br>(Rs.) | Net<br>outstanding<br>to be<br>sanctioned<br>(Rs.) | No.<br>of<br>parti<br>cipa<br>nts | Duration of<br>the Activity<br>(with dates) |
|-------|-------------------------------------|---|--|---|---|--|-----------------------------------|---|
| in de | No.: 1-<br>19/38<br>(June,<br>2019) | 1,10,000  | 43x300=12900<br>7x100=700  | 1,23,600  | 1,26,498.27                               | 2898.27  | 50                                | One day<br>(03-08-<br>2019)                 |

#### Income and expenditure statement

| . ale          |               | Income and expenditure statement  |                 |                      |
|----------------|---------------|---|-----------------|----------------------|
| S.No.          | Date          | Particulars   | Income<br>(Rs.) | Expenditure<br>(Rs.) |
| and and        |               | I installment amount  | 75000.00        |                      |
| and the second | - Contraction | II installment amount   | 35000.00        |                      |
| 4              |               | Income through Registration fee $(43x300 + 7x100)$  | 13600.00        |                      |
|                |               | TOTAL   | 123600.00       |                      |
| 1              |               | Pre programme expenditure:  |                 |                      |
| and a          |               | A DESCRIPTION OF THE OWNER OF THE                                 |                 |                      |
| 1.             | 3.7.2019      | Bill No. 168, Sri Rajeswari Book Stall, Narsapur<br>Paper (A4 – 4 reams & legal - 1 ream)   |                 | 935.00               |
| 2.             | 4.7.2019      | Bill No. 233, Sri Rajeswari Book Stall, Narsapur<br>Long note book  |                 | 45.00                |
| 3.             | 11.7.2019     | DTDC Nos. H88610260, 261 & 262 Courier charges<br>for sending letters to the resource persons   |                 | 190.00               |
| 4.             | 23.7.2019     | SI. No. 110, Krishna Sweet Mart & General Stores,<br>Narsapur Refreshments at the meeting conducted for<br>the department and committee members |                 | 670.00               |

The series I designed

10.5

| 5.     | 24.7.2019   | No. 80, Berhampur Khadi Silk Stores, Rjy, Shaals for<br>felicitation of resource persons and other guests         | 3120.00  |
|--------|-------------|---|----------|
| 6.     | 24.7.2019   | Sl. No. 484, B K Javar;s, Rjy, Folder files for   | 3920.00  |
|        |             | participants and others attending for the workshop           No. 64, Sri Manikanta Book Center, Rjy, Button files |          |
| 7.     | 24.7.2019   | and pens for the participants and others.   | 3650.00  |
| 8.     | 24.7.2019   | Expenditure for purchasing the items in S. No. 4, 5 & 6   | 2919.39  |
| 2.     | 25.7.2019   | No. 62, Creative Services, Stickers, Lunch coupons,<br>Receipts, Certificates (4/c) and Invitations (2/c)         | 4500.00  |
| 10.    | 25.7.2019   | No. 508, Sri Rajeswari Book Stall, Narsapur, Covers<br>for sending Invitations and others                         | 80.00    |
| 11.    | 25.7.2019   | V. No. 01, For Xerox copies of registration forms,<br>feedback forms, programme sheets etc.                       | 450.00   |
| 12.    | 2.8.2019    | No. 49, Creative Services, Nsp. for Welcome banner,<br>Banner for resource persons, flexes etc.                   | 3030.00  |
| 13.    | 2.8.2019    | V.No. 02, remuneration for displaying the banners<br>along the path to the workshop hall                          | 500.00   |
| 14.    | 2.8.2019    | CM No. 1592-6510082855 More Super Market, Nsp.<br>Eveready Red AA, Water bottles, etc.                            | 104.50   |
| 15.    | 2.8.2019    | CM No. 1592-7762027730 More Super Market, Nsp.<br>Apple Royal Gola for resource persons                           | 155.38   |
| Ĭ6.    | 2.8.2019    | Bill No. SP31607 grocery (Toilet kits for resource persons)   | 616.00   |
| 17.    | 2.8.2019    | Bill No. 932, Venkata Satya Enterprises, grocery<br>(Toilet kits for resource persons)                            | 40.00    |
| 18.    | 2.8.2019    | S.No. 119, Jagadamba China Bazar, Narsapur, Laser<br>light pointer for PPT presentations                          | 70.00    |
| 19.    | 2.8.2019    | Bill No. 1396, Aditya Super Bazar, Narsapur,<br>grocery (Tollet kits for resource persons)                        | 60.00    |
| 9 - 1  |             | grocery (Tonet kits for resource persons)   | 25055    |
|        |             | TA, DA & Honorarium for Resource persons:   |          |
| 1. Dr. | Y B K Reddy | y, Addl. Gen. Manager, Solar Energy Corporation of India, New   | v Delhi: |
| 20.    | 2.8.2019    | Flight tickets – New Delhi to Vijayawada &<br>Vijayawada to New Delhi   | 9622.00  |
| 21.    | 2.8.2019    | V.No. 03, taxi fare Gannavaram airport to Narsapur  | 4800.00  |
| 22.    | 2.8.2019    | Bill No. 6766, Hotel Grand Arya, dinner   | 970.00   |
| 23.    | 2.8.2019    | Ticket No. OIXB-4761, Toll gate fee   | 65.00    |
| 24.    | 2.8.2019    | Ticket No. 0520190802170858854, Toll gate fee   | 130.00   |
| 25.    | 2.8.2019    | Ticket No. 152772, Toll gate fee  | 60.00    |
| 26.    | 3.8.2019    | V. No.: 04, Honorarium  | 6000.00  |
| 27.    | 4.8.2019    | V.No. 05, taxi fare Gannavaram airport to Narsapur  | 4800.00  |
| 28.    | 4.8.2019    | Ticket No. 01201908041908231987, Toll gate fee  |          |
| 29.    | 4.8.2019    | Ticket No. 131495, Toll gate fee  | 45.00    |
| 30.    | 4.8.2019    | Ticket No. 0005-4323, Toll gate fee   | 60.00    |
|        |             | -   | 65.00    |

|                |               | Annarayana, Dean, Research, VSM College, Ramachan  | drapuram:     |                |
|----------------|---------------|--|---------------|----------------|
| 3).            | 2.8.2019      | No. 22, Jai Sri Appana Plaza-Vasavi Sai Function<br>Hall, Narsapur – stay for the chief guest and others |               | 3000.00        |
| 32             | 3.8.2019      | V. No. : 06, TA for Prof. G Bhagavannarayna  |               |                |
| - 33.          | 3.8.2019      |  |               | 4000.00        |
|                | P Balaii Bh   | arghay, Senior Research Scientist, SSN Research Centre   | CONTRACT      | 6000.00        |
| 01.            |               | V. No. : 08, TA (Rs. 2700/-) & Honorarium (Rs.   | , SSN Institu | tions, Chennai |
| 34             | 3.8.2019      | 6000/-) to Dr. P Balaji Bharghay   | The I         | 8700.00        |
| 4. Sr          | i R V Subba   | Rao, Research Advisor, Vignan University, Guntur:  |               |                |
| 35             | 3.8.2019      | V.No. 09, Honorarium for Mr. R V Subba Rao   | 1             | 6000.00        |
| A State of the |               | Subba Rab  |               | 6000.00        |
|                | A PER PARA    | Expenditure at the programme:  | ,             | 54,317         |
| 7 5 1          |               | ingenanare at the programme.   |               |                |
| 2.0            | 2.0.0010      | Receipt No. 10, snacks for delegates, guests and   | 1             | 1              |
| 36             | 3.8.2019      | members on duty at the workshop  |               | 3750.00        |
| 2-0            | 2.0.0010      | Receipt No. 11, Refreshments and other expenses for  |               |                |
| 37             | 3.8.2019      | the resource persons and others at the workshop  |               | 980.00         |
|                |               | No. 81, Phanisree catering and suppliers, Narsapur,  |               |                |
| - 38.          | 3.8.2019      | lunch for resource persons, delegates and other  | 1             | 26000.00       |
|                | and Distances | members on duty of the workshop  | 1.0           | 20000.00       |
| 1              | 1             | No. 82, Phanisree catering and suppliers, Narsapur   |               |                |
| 39             | 3.8.2019      | Shamiyana for arrangement of lunch for resource  |               | 3000.00        |
|                | 5.0.2019      | persons, delegates and other members on duty of the  | 2             |                |
| -              |               | workshop   |               |                |
| 40             | 3.8.2019      | No 22, Sri Satya Saibaba Sweet Home, Narsapur, for   |               | and the second |
|                | 5.0.2015      | evening snacks   |               | 6150.00        |
| 41.            | 3.8.2019      | Receipt No. 12, Tea and coffee for the delegates and   |               | 1950.00        |
| 15.            |               | other members at the workshop  | TPS 1         |                |
| 42             | 3.8.2019      | B. No. 13, C L N Dhaveji Sons, water bottles at the  |               | 216.00         |
|                |               | dias   |               |                |
| 43             | 3.8.2019      | No. 2, Manasa Fancy & General Stores, Narsapur,  |               | 100.00         |
| 21             |               | Holy lamp requirements   | and a line    | 430.00         |
| 44             | 3.8.2019      | No. 14, Sri Devi Flower merchants, Narsapur,   |               | 1500.00        |
| a Real         | -             | Garlands and bouquets for felicitations  |               |                |
| 14.            | the takes     |  |               | 43976          |
|                |               | Post programme expenditure:  |               |                |
|                |               | No 27 8-18-4 8-11-1 8  |               |                |
| 45             | 9.8.2019      | No 27, Sri Satya Saibaba Sweet Home, Narsapur,   |               |                |
| 10             | 9.0.2019      | snacks for the thanks giving function for the  |               | 1560.00        |
|                |               | members of the workshop  |               |                |
| 46             | 24.8.2019     | No. 69, Das Digital Studio, Narsapur, photos of the  |               | 1550.00        |
| 2047           | -3.8-201      | workshop   |               | 1550.00        |
| 47.            | 24.8.2019     | No. H89338549, courier charges for sending the   |               | 40.00          |
|                |               | memento for Prof. G Bhagavannarayna  |               |                |
| 1.             |               | GRAND TOTAL  | 123600.00     | 126498.27      |
| -44            |               | Net balance amount to be sanctioned  | 2898.27       |                |

I have satisfied myself that the Statement of Expenditure is accurate, results from reliable accounting systems and is based on verifiable supporting documents all HERE SECTION T. RAMA MOHAN) (Name and Signature of Convener) 0 - MALLESWARA RAD) (Name and Signature of Organising Secretary), (Name and Signature of Principal of the College) COLL PRINCIPAL ...i Y.N.College (Autonomous) IIAAC Accredited 'A' Grade College NARSAPUR - 534 275, W.G.Dt., (A.P) C NA A AAAABIUR Grade 19226356 College RSAP Signature (with Seal) of the authority as indicated in sub clause (q) of clause 3 of chapter I of research funding rules, 2015.

313 CH. S. D. ST. THERESA'S COLLEGE FOR WOMEN (AUTONOMOUS), ELURU Affiliated to Adikavi Nannaya University, Rajamahendravaram College of Excellence, NAAC A<sup>+</sup> (3.56/4) Plione numbers: 08812-251210, Fax: 08812-250380, Website: www.chsd:theresacollege.net Email: chsdtheresa@gmail.com, st: theresa2003@yahoo.co.in Contact Nos: 7337461488, 9490970007, 9441751205 CALIFY From Manuel of this Series The Principal and a subject St. Theresa's College, Eluru No: F. MRP-325/2019 (W/S/C//RUSA 2.0-STC) Dated : June, 2019 The Accounts Officer LINKNO: 1-19/38 Department of Physics Ch. S. D. St. Theresa's (A) College for Women, Elura, West Godayari Dist. 534003 Sub: Financial Assistance to conduct One-Day National level Workshop on 'Emerging Trends in Renewable Energy Resources"-Approval-Cum Sanction Letter of first instalment neg-Phone F Hegener Sir/Madam, This has reference to conduct One-Day National level Workshop on 'Emerging Trends in Renewable Energy Resources" submitted by Dr. L. Malleswara Rao, Organising Secretary Sri. J. Rama Mohan, Convener, Department of Physics, Sri Y N College, Narsapur, W.G. Dist. A.P. for Financial Assistance under the above scheme and to say that RUSA Coordinator has approved a grant of Rs. 1, 10,000/- to the Convener for undertaking the above mentioned One-Day National Level Seminar as per the items of the expenditure listed below: FINANCIAL ASSISTANCE IS SOUGHT Amount Amount allocated (Rs) 0% sanctioned as first instalment(Rs.) TA and Honorarium 30.000/-15,000/-Pre-Workshop printing (Announcements, Invitations, Abstracts, DTP & Printing etc.) 15,000/-7,500/-Participants certificates & Kits 25,000/-12,500/-Local Hospitality including board and lodging: 30,000/-15.000/ (may be restricted to 25% of the total allocation from the UGC) **Banners and Photos** 10,000/-5,000/-(GRAND TOTAL): Rs. 1, 10,000/-55,000/-I am further to convey the sanction of the above said payment under RUSA Rs. 55,000/-11. to the Principal, Sri Y N College, Narsapur, W.G. Dist. A.P. of the concerned college as first instalment towards the above project. The above approval is subject to the general conditions of grants prescribed by the RUSA. for the scheme. The sanctioned amount is valid for payment during the financial year 2019-20 only and 3 the amount of the grant shall be credited to "The Principal of the Concerned College", by electronic mode. rar: 2. muid." Loen!

3 ... 4. In case the Convener of the Workshop has been transferred/ left/ retired from the college, the released amount may be returned to The Principal, St. Theresa's College immediately. The Convener is required to submit the Workshop report along with the documents 1) Workshop Report 2) Utilization Certificate duly signed by the Convener, Principal 3) Statement of expenditure duly signed by the Convener, for the first installment of grant received immediately on completion of conducting Workshop. The college must send the filled in Acknowledgement Certificate within 15 days of receipt of this letter else the college may return the sanctioned amount to this office. The grant is subject to the adjustment based on utilization certificate in the wavecided 5. 6. The grant is subject to the adjustment based on utilization certificate in the prescribed The Utilization Certificate to the effect that the grant has been utilized for the purpose for which it has been sanctioned shall be furnished as early as possible after the close of 8. current financial year. 9. National Level Workshop To be completed on or before 30th December 2019 10. Date of One-Day National Level Workshop: The effective date of conducting One-Day National Level Seminar will be the date of receipt of fund by the Institution -Yours faithfully, Re aver dinablematery. Sa - Cor por Ch S.D.St Therosa's College for Wh ELURU state of the transferred to your college account by e-payment. You are Dr. Sr. Marietta R'mello requested to acknowledge the receipt of the above amount by sending the acknowledgement form within 15 days. atter 1. The Principal, Sri YN College, Narsapur, W.G. Dist, A.P. i .... arei. -----2. MR/MRS/ MS: Dr. L. Malleswara Rao, Organising Secretary Sri. J Rama Mohan, Convener Sri Y N College, Narsapur, W.G. Dist. A.P. No. C. P. Yours faithfully, (IN SHOL 1. requested in 111 12 of the + dates the Le caoar Save V ...... wat sa; MIRAN her marter 1.70



DEPARTMENT OF PHYSICS

SRI Y.N.COLLEGE (AUTONOMOUS)-NARSAPUR

(Affiliated to Adikavi Nannaya University) Thrice Accredited by NAAC at 'A' Grade Recognized by UGC as 'College with Potential for Excellence'



**RUSA-2.0 Scheme** (With the Financial assistance from Ch. S. D. St. Theresa's College for Women, Eluru, West Godavari Dist. A.P)

## One Day National Workshop on "EMERGING TRENDS IN RENEWABLE ENERGY RESOURCES" 3rd August, 2019 WORKSHOP EVALUATION FORM (FEEDBACK FORM)

Thank you for participating in the workshop. We hope you find it valuable to. We would appreciate if you could take a few minutes to fill out this feedback form so that we can improve the workshop for future attendees.

|  | Excellent | Very | Good | Fair |
|--|-----------|------|------|------|
|  |           | Good |      |      |
| 1. The workshop was well organised       |           |      |      |      |
| 2. Speaker's Knowledge of the Subject    |           |      |      |      |
| 3. Speaker's ability to gain and keep my |           |      |      |      |
| attention                                |           |      |      |      |
| 4. Visual Aids                           |           |      |      |      |
| 5. facilities provided by the College    |           |      |      |      |
| 6. Additional Resources available        |           |      |      |      |
| 7. The Workshop increased my             |           |      |      |      |
| knowledge and skill in renewable         |           |      |      |      |
| energy                                   |           |      |      |      |
| 8.The information and skills presented   |           |      |      |      |
| were relevant and useful                 |           |      |      |      |
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| them satisfactory.                       |           |      |      |      |
| 10.Overall Rating                        |           |      |      |      |

1 EMERGING TRENDS IN RENEWABLE ENERGY RESOURCES" Participant stafk members Registration Sri. R. Y. Subba Rao, Regearch Advise, vignan's university and former HOD, TCSOCD, IGCAR, Chennai K. Venkateswarle, P.rincipa ( world Dr. Maheswari, Vice-Principal M. K. Mageswara Rao, IQAC Co-2 MOM Ramana, Hop of Geography Me lectures in geography Mg. BNSV Plasad, G B. Venkata Ration, Hop of commerce BURAtman MS Ma. G. Syanbabo, Hop of Biotechnology 8 Sr Ravi Kuran, Lectures, Comp Science in Ma. G. Raugo Babu, Hop of Mathematics, PG G. Range 10)

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| 6) Simple Linger  | 6          |                           |   |                        | P.P.                                     | · B. Bhance Terasuri   |
| 63 BiBhany Toiselli   | 8          |                           |   |                        | 1151                                     | k.L.D.Bhavani  |
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| 64 K.L. Durga Bhavani<br>65 T. Uma Derri  | 13         |                           |   |                        |  | Kanag di   |
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| 69 T-Sancestha  | 9          |                           |   |                        |  | DN.S. Calcine  |
| 69 T-Sangeotha<br>70 D. Sat. Latzhni  | 4          |                           |   |                        |  | K T i h  |
| 71 K. Joi Kumar<br>72 N. Venkana Babu   | 26         |                           |   | ╶┼╌┼╌┼╌┼               | 1 13 - 44                                | N. Virkaina Babac  |
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