

**A.S.D. GOVERNMENT DEGREE COLLEGE**



**FOR WOMEN**

**Autonomous and NAAC Re-Accredited With "B" Grade in Cycle-III**

**Affiliated to Adikavi Nannaya University, Rajamahendravaram**

**Kakinada-533 002, Andhra Pradesh**



## **Department of Chemistry**

**A Brief Report  
on**

**Two Day**

**National Seminar on**

**"Nuclear Science in Health and Environment"  
(NSHE - 2022)**

**In Association with**

**Bhabha Atomic Research Centre, Mumbai**

**16 - 17, March, 2022**



**V. Mallikarjuna Sarma**  
**Organizing Secretary**  
**Lecturer in Charge**  
**Department of Chemistry**  
**Phone No.: 8341546804, 9676822550**

**Dr. K. Jhansi Lakshmi**  
**Co - Convener**  
**Lecturer in Chemistry**

**Dr. S. Priyadarshini**  
**Organizing member**  
**Lecturer in Chemistry**

**P. Leena**  
**Organizing member**  
**Lecturer in Chemistry**

**M. Subbalakshmi**  
**Organizing member**  
**Lecturer in Chemistry**

Chief Patron

**Dr Pola Bhaskar**, IAS  
Commissioner, Collegiate Education  
Vijayawada

Patron - 1

**Dr. R. David Kumar**, M.Sc., Ph.D.  
Joint Director, APCCE, Vijayawada

Patron - 2

**Dr. C. Krishna**, M.Sc. (Tech), Ph.D.

President

RJDCE, Rajamahendravaram  
**Dr. V. Ananta Lakshmi**, M.Sc., Ph.D.  
Principal

Vice-President

**Smt.M. Suvarchala** M.Sc., M.Ed

Convenor

Vice Principal / HOD of Home Science  
**K. Venkateswara Rao**, M. Sc.

Co - Convenor

**Dr. K. Jhansi Lakshmi**, M.Sc., Ph.D.  
Lecturer in Chemistry.

Organizing Secretary

**V. Mallikarjuna Sarma**, M.Sc., M.Phil., B.Ed.

HOD of Chemistry

## ORGANIZING COMMITTEE

**Smt. M. Vasantha Lakshmi**, M.Sc.,  
Coordinator, IQAC

**B. Suryanarayana Devara**, M.Sc., M.Phil.  
Lecturer in Physics

**Dr. S. Priyadarshini**, M. Sc., Ph.D.

Lecturer in Chemistry

**Ms. P. Leena**, M.Sc.

Lecturer in Chemistry

**Ms. K. Kranti**, M.Sc.

Lecturer in Physics (Contract)

**Smt. M. Subbalakshmi**, M.Sc.

Lecturer in Chemistry (Contract)

## ADVISORY COMMITTEE

**Dr. L. Giribabu**, Ph.D.

Principal Scientist, ICT, Hyderabad

**Dr.N. Lingaiah**, Ph.D.

Principal Scientist, ICT, Hyderabad

**Prof. N. Venugopal**, Ph.D.

Professor of Chemistry

GITAM, Visakhapatnam.



## A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN

An Autonomous and NAAC "B" Grade Institution  
(Affiliated to Adikavi Nannaya University, Rajamahendravaram)

Jagannaickpur, Kakinada - 533 002, Andhra Pradesh.

## TWO DAY NATIONAL SEMINAR ON

## NUCLEAR SCIENCE

## IN

## HEALTH AND ENVIRONMENT

(NSHE-2022)

In Association with

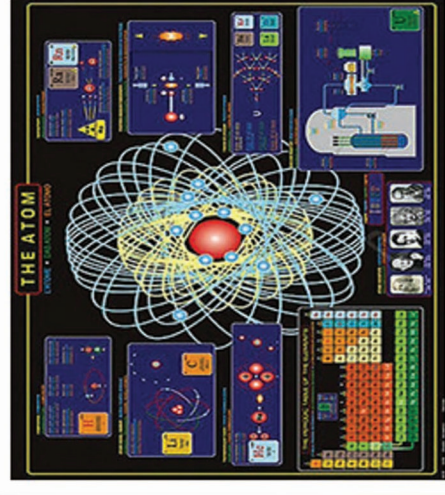
Bhabha Atomic Research Center (BARC), Mumbai

## ABOUT THE COLLEGE

"Annaram Satyavathi Devi Government Degree College for Women", was named after the Goddess Satyavathi Devi of Annaram. It was established in 1962 with the objective of emancipation and empowerment of women in higher education. The logo represents "SthreeVidya Pravardhatam", which means, 'Women Education Shall Prosper'. The institution is in a prime location of Kakinada town with campus area of 7.75 acres connected with good transport facility. The College was admitted under section 2(f) & 12(B) status of U.G.C Act with effect from 01-06-1962.

Initially, the college began with general UG Courses like B.A., and B.Sc. Later, B.Sc. – Home Science in 1963, B.Com. Courses in 1991 and B.Sc. Microbiology in 1998 were introduced. Gradually Vocational Courses in B.A. and B.Com. were also included. Two P.G. courses viz. M. Com. and M.A.(Telugu) are sanctioned in 2015-16 and 2016-17 respectively are running successfully.

Due to the dedication, commitment and co-operation of staff and students, the College is conferred Autonomy status w.e.f 2015-16 (CBCS Pattern), and the College is grooming for Center for Potential Excellence (CPE) status. The College is upgrading under RUSA and UGC funds by constructing additional class rooms and examination cell, Digital and Virtual classrooms, labs etc. The College is offering B.A. (H.E.P.; T.H.P.), B.Com. (TM, EM, & Computers), and B.Sc. (MPC, MPCS, CBZ, CBMB & H.Sc.) at UG level under Semester System. Along with the UG Degree, TISS Parallel degree is the additional advantage from 2016-17 admitted batch.



**16-17, March, 2022**

Organized by

DEPARTMENTS OF PHYSICS & CHEMISTRY

Mobile: +91-8341546804; 7661828147. Ph: 0884-2378446

Website: <https://www.asgdcdw.ac.in>

E-mail: [jkcryec.asdkkd@gmail.com](mailto:jkcryec.asdkkd@gmail.com)

## ABOUT CHEMISTRY DEPARTMENT

Chemistry Department is one of the oldest Departments of this College, established in the year 1962. In 1968, the AnnavaramDevasthanam handed over the college to the Government of Andhra Pradesh. A.S.D. Govt. Degree and Junior College functioned as a composite institution till 1995.

Later in tune with the policy of U.G.C, the Government of Andhra Pradesh has bifurcated this institution into Junior and Degree Colleges in 1996. Since then the Chemistry Department is handling only U.G. level teaching. In 2015, the U.G.C. conferred Autonomy status to the institution, and from the academic year 2015-16, the Department switched over to semester system under CBCS pattern.

## ABOUT PHYSICS DEPARTMENT

The Department of Physics was established in 1963. Since then the Department plays an important role in the college with full strength of six sections of B. Sc (MPC & MPCs). The department aims to strive in the pursuit of Excellence in Physics subject which helps the students in building their goals for a bright future. Along with Wi Fi facility, the department is fully equipped with Lab facilities. All the labs are furnished with solar power from 2014.

## THEME OF THE SEMINAR

Nuclear science is the study of the atomic nuclei and their applications, including in power sector, Health and Environment. Nuclear energy is an important energy source that has potential applications in the power sector. The study of nuclear science includes the composition of nucleus, the forces that bind the nucleons together, radio isotopes and their applications. It is one of the frontier areas of scientific research. Nuclear Science and Technology plays a vital role in the development of a country. People have a myth about nuclear science that its applications cause environmental pollution and also health hazards. Creating awareness on Nuclear Science and Technology among young minds is essential.

The theme of the seminar is a broad and multi – disciplinary area covering both science and humanities.

This seminar aims at dissemination of knowledge in the field of Nuclear Science and its applications.

## SUB THEMES

- Importance of Nuclear Science in Scientific Research.
- Applications of Radio isotopes in Chemistry, Health and Environment.
- Role of Nuclear Energy in Power generation.
- Career Opportunities in Department of Atomic Energy.
- Radiation and Environment.



## A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN

An Autonomous and NAAC “B” Grade Institution  
(Affiliated to Adikavi Nannaya University, Rajamahendravaram)

Jagannaickpur, Kakinada - 533 002, Andhra Pradesh.

## TWO DAY NATIONAL SEMINAR

ON

## NUCLEAR SCIENCE

IN

## HEALTH AND ENVIRONMENT

(NSHE-2022)

In Association with

Bhabha Atomic Research Center (BARC), Mumbai

**16-17, March, 2022**

**Registration:** Participants can register their names by using the following link.

<https://forms.gle/ZKBS7NIKWJbPnKf57>

**Registration fee:**

For Industry Personnel : Rs.600/-

For Faculty&Research scholars : Rs. 500/-

For Students : Rs. 200/-

Publication charges : Rs. 800

The fee should be paid online/ offline to the following Bank Account.

Name of the Bank Account Holder : **Principal, ASD Govt. Degree College (W), Kakinada.**

Name of the Bank : SBI, Jagannaickpur, Kakinada

Bank Account Number : 30395570704

IFSC Code : SBIN0002729

(Spot Registration is also available)

**National Level Online Quiz for students:**

A National Level Quiz will be conducted for UG/ PG students on “Nuclear Science and its applications” on 13.03.2022 at 10.00am. Top three winners will be awarded cash prizes. Students who wish to participate in the quiz can register their names using the following link.

<https://forms.gle/CnrfMSidK6Q7eaQ6VA>

**for Details Contact : 8341546804,7661828147**

## OBJECTIVES OF THE SEMINAR

- The programme highlights the important role of Nuclear Science in everyday life and their substantial contributions for the development of the mankind on the planet Earth.
- To imbibe scientific temper among the students, organizing quiz programmes and elocution competition.
- To bring together scholars, research students and teachers to disseminate their knowledge on Nuclear Science and its applications.

## THE OUTCOME

- Create awareness and interest towards Nuclear Science and the latest developments in the area.
- A platform for deliberations on Nuclear Science and Technology for the growth and development of Science across the Globe.
- Record the current global problems and find solutions through models / project-based dissertations.
- Create awareness on the career opportunities in DAE.
- Differentiate myths and facts on the usage and effects of nuclear energy.

## CALL FOR PAPERS:

Authors can send their abstracts not exceeding 500 words configuring key words and references. The abstract should be in MS-Word in Times New Roman (12 font size) with 1.5 line spacing. Further, while sending the abstract, authors should indicate their interest for oral/poster presentations. Abstract should be sent on or before 08.03.2022. to this mail id: [nationalseminarshe@gmail.com](mailto:nationalseminarshe@gmail.com)

**Guidelines for submission of articles/ papers for publication:**

- All submitted papers will be peer reviewed and selected papers will be published in a book form with ISBN.
- Soft copy of the manuscript should be submitted in MS Word format using Times New Roman font, 12pts font size and 1.5 space on or before 08.03.2022.
- In case of co – author, each author has to pay the registration fee.
- The full-length paper should be original with plagiarism checked below 15% before submission.



**A.S.D. Government Degree College for Women (Autonomous), Kakinada, Andhra Pradesh - Proposal for Two - Day National Level Seminar - Submitted.**

4 messages

**Mallikarjuna Sharma V** <mallikarjuna.v@asdgdwc.ac.in>  
To: arsharma@barc.gov.in

Wed, Feb 16, 2022 at 10:42 AM

Respected Madam,  
Greetings from Sarma.

As per your instructions, I submitted our proposal to the BARC team, Visakhapatnam for conduct of the Two - Day National Level Seminar. In response to our mail, the team informed us that they forwarded our proposal to the concerned authority and were awaiting their approval. In this regard, I humbly request you to kindly approve our proposal at the earliest.

The tentative schedule for the proposed seminar is during the first/ second week of March, 2022.

Title of the seminar: " Nuclear Science in Medicine and Environment".

Number of resource persons: 06.

Thank you.

With regards.

V. Mallikarjuna Sarma

Lecturer in Chemistry

A.S.D. Government Degree College for Women (Autonomous)

Kakinada - 533002.

Andhra Pradesh.

Mobile: 8341546804, 9676822550.

**DrArchana Sharma** <arsharma@barc.gov.in>

Thu, Feb 17, 2022 at 11:17 AM

Reply-To: arsharma@barc.gov.in

To: Mallikarjuna Sharma V &lt;mallikarjuna.v@asdgdwc.ac.in&gt;

Cc: suryam@barc.gov.in, surrender@barc.gov.in, rishiv@barc.gov.in, "Dr. Rohit Shukla (डॉ. रोहित शुक्ल)" &lt;rshukla@barc.gov.in&gt;

Its fine from my side.

our colleagues will join as indicated earlier

[Quoted text hidden]

**Mallikarjuna Sharma V** <mallikarjuna.v@asdgdwc.ac.in>

Thu, Feb 17, 2022 at 11:23 AM

To: arsharma@barc.gov.in

Thank You Madam.

[Quoted text hidden]

**Mallikarjuna Sharma V** <mallikarjuna.v@asdgdwc.ac.in>

Thu, Feb 17, 2022 at 11:23 AM

To: suryam@barc.gov.in

[Quoted text hidden]

**A.S.D.Government Degree College for Women (Autonomous), Kakinada - Proposal to conduct a National Seminar/ Workshop in our college - submitted.**

7 messages

**Mallikarjuna Sharma V** <mallikarjuna.v@asdgdwc.ac.in>  
To: arsharma@barc.gov.in

Sun, Jan 23, 2022 at 1:32 PM

Respected Madam,

Greetings of the day. I am V. Mallikarjuna Sarma, Lecturer in Chemistry, A.S.D.Government Degree College for Women (Autonomous), Kakinada, Andhra Pradesh.

Nuclear physics/ Nuclear Chemistry is an important subject to learn the concepts of nucleus, Nuclear Energy, Radio isotopes and their applications and more. It finds a wide range of applications in the field of power generation, medical diagnostics and therapeutics.

Hence there is a need to motivate and develop interest in the students towards learning this subject and also to create awareness on the initiatives of central government institutions such as DAE, BARC etc.

In this context, we wish to conduct a National level programme on this topic in our college in association with BARC under outreach programme. We propose to conduct this programme during the second week of February, 2022.

Herewith we submit our proposal for your kind perusal.

Our college website: <https://www.asdgdwc.ac.in/>

Thank you

With regards.

V. Mallikarjuna Sarma

Lecturer in Charge

Department of Chemistry

A.S.D.Government Degree College for Women (Autonomous)

Kakinada - 533002

Andhra Pradesh.

Mobile: 8341546804, 9676822550

**DrArchana Sharma** <arsharma@barc.gov.in>  
Reply-To: arsharma@barc.gov.in  
To: Mallikarjuna Sharma V <mallikarjuna.v@asdgdwc.ac.in>  
Cc: "PA To Controller, BARC" <controff@barc.gov.in>

Mon, Jan 24, 2022 at 10:37 AM

Dear Sir,

As part of Azadi ka Amrit Mahotsav, this seminar is welcome move. I compliment you and your college authorities.

A few of our BARC officers from Vizag will join this and give their presentation to motivate students and share the work are with best wishes for the success of your program;

**Dr. Archana Sharma**, FNAE, FIET, FIE;

OS, Group Director,

Beam Technology Development Group;

Bhabha Atomic Research Centre, Mumbai

Senior Professor, HBNI, Mumbai

Ph. 022-25593619/3660/3988

[Quoted text hidden]

**Mallikarjuna Sharma V** <mallikarjuna.v@asdgdwc.ac.in>  
To: arsharma@barc.gov.in

Sun, Jan 30, 2022 at 10:48 AM

Madam,  
Greetings of the day.

We have not yet received any confirmation message from Vizag team regarding the conduct of National Seminar.

[Quoted text hidden]

---

## 2 attachments



image001.png  
13K



image001.png  
13K

---

**arsharma@barc.gov.in** <arsharma@barc.gov.in>  
To: Mallikarjuna Sharma V <mallikarjuna.v@asdgdwc.ac.in>

Sun, Jan 30, 2022 at 8:19 PM

please tell me how many speaker you need and on which date.  
with flyer of your program to match the topic for the talk.

On 2022-01-30 10:48, Mallikarjuna Sharma V wrote:

Madam,  
Greetings of the day.  
We have not yet received any confirmation message from Vizag team regarding the conduct of National Seminar.

On Mon, 24 Jan 2022, 10:37 DrArchana Sharma, <arsharma@barc.gov.in> wrote:

Dear Sir,

As part of Azadi ka Amrit Mahotsav, this seminar is welcome move. I compliment you and your college authorities.

A few of our BARC officers from Vizag will join this and give their presentation to motivate students and share the work are

with best wishes for the success of your program;

Dr.Archana Sharma,FNAE,FIET,FIE;

OS, Group Director,

Beam Technology Development Group;

Bhabha Atomic Research Centre, Mumbai

Senior Professor, HBNI, Mumbai

Ph.022-25593619/3660/3988

[Quoted text hidden]

---

**DrArchana Sharma** <arsharma@barc.gov.in>

Tue, Feb 1, 2022 at 10:14 AM

Reply-To: arsharma@barc.gov.in  
To: Mallikarjuna Sharma V <mallikarjuna.v@asdgdw.ac.in>

Dear Sir,

Dr.Rohit Shukla: [rshukla@barc.gov.in](mailto:rshukla@barc.gov.in)

and DR.Surya narayana : [suryam@barc.gov.in](mailto:suryam@barc.gov.in)

can be invited for this seminar.

what else you need from BARC.

regards-archana

[Quoted text hidden]

---

**Mallikarjuna Sharma V** <mallikarjuna.v@asdgdw.ac.in>  
To: arsharma@barc.gov.in

Tue, Feb 1, 2022 at 10:24 AM

Respected Madam,  
Received your email with profound gratitude.  
We will contact the resource persons mentioned in your email and submit the updates.  
Thank you.  
With regards  
[Quoted text hidden]



image001.png  
13K

---

**Mallikarjuna Sharma V** <mallikarjuna.v@asdgdw.ac.in>  
To: arsharma@barc.gov.in

Tue, Feb 15, 2022 at 10:31 AM

Respected Madam,  
Greetings from Sarma.  
As per your instructions, I submitted our proposal to the BARC team, Visakhapatnam for conduct of the Two - Day National Level Seminar. In response to our mail, the team informed us to forward our proposal to the concerned authority and await their approval. In this regard, I humbly request you to kindly approve our proposal at the earliest.  
The tentative schedule for the proposed seminar is during the first/ second week of March, 2022.  
Title of the seminar: " Nuclear Science in Medicine and Environment".  
Number of resource persons: 06.  
Thank you.  
With regards.  
V. Mallikarjuna Sarma  
Lecturer in Chemistry  
A.S.D. Government Degree College for Women (Autonomous)  
Kakinada - 533002.  
Andhra Pradesh.  
Mobile: 8341546804, 9676822550.

[Quoted text hidden]



## A.S.D. Government Degree College for Women (A), Kakinada - Invitation for Two - Day National Seminar

2 messages

VARANASI MALLIKARJUNA SARMA <v.mallikarjunasarma@gmail.com>

Sat, Mar 5, 2022 at 8:35 AM

To: rajender@iict.res.in

Cc: priya.sayala@gmail.com

Dear Sir,  
Greetings of the Day.  
Firstly, we are very much thankful to you for accepting our request to be a part of the programme. We are going to conduct a National level Two - Day Seminar on "Nuclear Science in Health and Environment" during 16 - 17, March 2022 in our college premises.  
In this regard, We cordially invite you to the programme and enlighten the students and faculty in the research area of your interest.  
Kindly inform us the date of your arrival (16th or 17th March) so that we can make arrangements accordingly for travel and accommodation.  
Please find our seminar brochure in the attachment.  
Thank You.  
Warm Regards,  
V. Mallikarjuna Sarma  
Organizing Secretary of the seminar.

--

**WITH REGARDS**

**V. MALLIKARJUNA SARMA,**  
**Lecturer in Chemistry**  
**A.S.D. Government Degree College for Women (Autonomous)**  
**Kakinada-533002,**  
**East Godavari District(A.P)**

**V.MALLIKARJUNA SARMA,**  
**51-10-6A,Puram Vari Street,**  
**Jagannaickpur,**  
**KAKINADA-533002.**

**Mobile: 9676822550**  
**8341546804**



**ASD College Seminar Brochure.pdf**

2641K

RajenderReddy K. <rajender@iict.res.in>

Sat, Mar 5, 2022 at 10:52 AM

To: v mallikarjunasarma <v.mallikarjunasarma@gmail.com>

Cc: priya sayala <priya.sayala@gmail.com>

Dear Dr. Sarma,  
Thank you for the mail and I am happy to accept the invitation. I prefer to deliver the talk on 17th March, 2022. I will book the travel to reach Kakinada on the 17th morning and leave Kakinada on 17th night, so that I can be back Hyderabad on 18th morning. For me any mode of travel (bus or train) is OK.

With regards  
Dr Rajender Reddy  
CSIR-IICT

----- Original Message -----

From: v mallikarjunasarma <v.mallikarjunasarma@gmail.com>

To: RajenderReddy K. <rajender@iict.res.in>

Cc: priya sayala <priya.sayala@gmail.com>

Sent: Sat, 05 Mar 2022 08:35:17 +0530 (IST)

Subject: A.S.D. Government Degree College for Women (A), Kakinada - Invitation for Two - Day National Seminar

Dear Sir,

Greetings of the Day.

Firstly, we are very much thankful to you for accepting our request to be a part of the programme.

We are going to conduct a National level Two - Day Seminar on "Nuclear Science in Health and Environment" during 16 - 17, March 2022 in our college premises.

In this regard, We cordially invite you to the programme and enlighten the students and faculty in the research area of your interest.

Kindly inform us the date of your arrival (16th or 17th March) so that we can make arrangements accordingly for travel and accommodation.

Please find our seminar brochure in the attachment.

Thank You.

Warm Regards,

V. Mallikarjuna Sarma

Organizing Secretary of the seminar.

--

\*WITH REGARDS V. MALLIKARJUNA SARMA,Lecturer in Chemistry\*

\*A.S.D. Government Degree College for Women

(Autonomous)Kakinada-533002,East Godavari District(A.P)V.MALLIKARJUNA  
SARMA,51-10-6A,Puram Vari Street,Jagannaickpur,KAKINADA-533002.Mobile:  
9676822550 8341546804\*

**A.S.D. Government Degree College for Women (Autonomous), Kakinada**  
**Departments of Physics and Chemistry**

**List of students registered for National Level Online Quiz on “Nuclear Science and its applications”**

Timestamp	NAME OF THE STUDENT	GENDER	CLASS STUDYING/ STUDIED	GROUP	NAME OF THE INSTITUTION	CITY	PIN CODE	STATE	MOBILE NUMBER (WHAT'S APP)
3/8/2022 21:04:07	Annavarapu. Jyothi meghana	FEMALE	Degree 3rd year	Bzc(em)	Pitapuram raja's government college (A)	Kakinada	533001	Andhra Pradesh	7013522799
3/8/2022 21:08:30	Payyavula maheah	MALE	Final year BSC	Mpc	Srr arts and science karimanagsr	Karimnagar	505001	Telangana	9381843267
3/8/2022 21:09:22	g.gangothri2005@gmail.com	FEMALE	Bsc third year	Mpc	Government Degree College	Tuni	533401	Andhrapradesh	9666750637
3/8/2022 21:11:16	S. Haritha	FEMALE	2nd bsc	BSC. BBC	GOVERNMENT AUTONOMOUS COLLEGE RAJAHMAHENDRY	RAJAHMAHENDRY	533102	ANDHRA PRADESH	7036646122
3/8/2022 21:12:02	KANDUKURI DURGA PRASAD	MALE	3rd year Bsc	Bsc . Horticulture	Government Autonomous college Rajahmundry	Rajahmundry	533297	Andhra Pradesh	8106211108
3/8/2022 21:12:14	N.sai durga prasad	MALE	Bsc	B.z.c	Govt degree college, ramachandrapuram	Ramachandrapuram	533462	Ap	6301987252
3/8/2022 21:12:49	Srinivasarao	MALE	1st Msc maths	M.sc (maths)	Adhikavi nannayya university	Rajahmundry	533101	Andhra pradesh	8106133867
3/8/2022 21:20:35	Vattara Dorababu	MALE	2nd B.sc	Mccs	Pitapuram Raja's Government college (A) kakinada	Kakinada	533001	Andhrapradesh	6305025739
3/8/2022 21:20:39	P.veera venkata vijaya Lakshmi Devi	FEMALE	Bsc	Microbiology	PR Government College	Kakinada	533434	Andhra Pradesh	7981458456
3/8/2022 21:21:04	S N INDRANATH	MALE	DEGREE	Bsc	GOVT DEGREE COLLEGE	NAGARI	517592	AP	9182603946
3/8/2022 21:22:31	Vattara Dorababu	MALE	2nd B.sc	Mccs	Pitapuram Raja's Government college (A) kakinada	Kakinada	533001	Andhrapradesh	6305025739
3/8/2022 21:26:26	K.Reshma	FEMALE	III BSc	BZC	PRGC	Kakinada	533001	Andhra Pradesh	8919486308
3/8/2022 21:27:25	Sandhya RK.	FEMALE	2year Bsc	Microbiology	P.R.G Degree college	Kakainada	533001	Andhra Pradesh	9398744342
3/8/2022 21:31:15	TADALA HEMALATHA	FEMALE	Degree	MPC	Pithapur Rajah's Government college	Kakinada	533006	Andhrapradesh	9603557729
3/8/2022 21:38:51	Sathi Aswini	FEMALE	2nd Bsc	Mccs	PRGC pitapur Raja's govt college	Kakinada	533005	Andhra pradesh	8985491244533
3/8/2022 21:58:15	PITTU SRIKANTH REDDY	MALE	UG 3rd year	M.P.C	K.V.R. K. V. R. &M.K.R COLLEGE	Guntur	522314	ANDHRAPRADESH	8341952754
3/8/2022 22:05:44	Koppiseti Durgaprasad	MALE	3rd Bsc (mcpc)	Mpc	PR government college	Kakinada	533005	Andhra Pradesh	7286970142
3/8/2022 22:29:42	CHEKKA PANDU S/O RAMACHANDRAM	MALE	Post graduation	MSC chemistry	iitmadras	HYDERABAD	500070	Telangana	08328379405

3/8/2022 23:31:19	Monalisha jena	FEMALE	Complete bsc in chemistry	Chemistry	Tulasi women's college	Kendrapara	754211	Odisha	8480672596
3/9/2022 0:04:53	Dandumenu krishna Harshitha	FEMALE	3rd B.Sc.	BZC	PR(A) govt. Degree college	Kakinada	533005	Andhra Pradesh	8247090416
3/9/2022 0:06:31	RAPARTHI MOHAN VENKATA DURGA VEERESH	MALE	III BZC EM	BZC	PRGC (A) KAKINADA	Kakinada	533001	Andhra Pradesh	9493838000
3/9/2022 1:46:27	GHAN SHYAM KUMAR BHAGAT	MALE	<a href="#">M.sc</a>	CHEMISTRY	UNIVERSITY DEPARTMENT OF CHEMISTRY BHAGALPUR	BHAGALPUR	812008	BIHAR	9534290968
3/9/2022 7:27:47	Medisetti Ramesh	MALE	1st MSc	Organic chemistry	Dlr	Pedapudi Mandal Domada	533006	Andhra Pradesh	6302609819
3/9/2022 9:21:53	Vighne Nikhil Bhausaheb	MALE	Msc	Chemistry	New arts commerce and science College shevgaon Dist Ahmednagar Maharashtra	Shevgaon	414502	Maharashtra	9146750777
3/9/2022 9:33:03	G V JOSH LALITHICK	MALE	B.Sc (MPC)	MPC	P R Government college	Kakinada	533003	Andhra Pradesh	8374043281
3/9/2022 9:40:20	Doddi. Yashoda kanaka durga	FEMALE	3rd B. Sc	BZC	Government degree college (A) Tuni	Tuni	533401	Andhrapradesh	9666201685
3/9/2022 9:56:04	Pravallika Podila	FEMALE	B.sc MCCs	B.sc MCCs	P.R . Government Degree College, Kakinada.	Kakinada	533005	Andhra Pradesh	8179827504
3/9/2022 10:25:23	K. Neela veni	FEMALE	3 BSC	Mpc	A. S. D govt degree college for women	Kakinada	533002	Andhrapradesh	8106439334
3/9/2022 10:29:11	G. Anusha	FEMALE	Degree 1st year	Bzc	N s p r(w)Degree college	Hindupur	515231	Anathapur	6304900970
3/9/2022 10:45:07	SURAMPUDI SANJAY DEEPAK	MALE	B.sc(1 st year)	Biotechnology -Zoology- Chemistry	P.R Government Degree College	Kakinada	533001	ANDHRA PRADESH	+91 9100212695
3/9/2022 10:45:58	R.NAGALAKSHMI	FEMALE	III BSC	MPC	ASD govt degree college for women kakinada	Kakinada	533002	Andhra Pradesh	9347917245
3/9/2022 11:31:24	SAPANA SHASHIKANT JIRE	FEMALE	MSc II organic chemistry	...	Dr.A.G.D.Bendale girl's College jalgaon	Jalgaon	425002	Maharashtra	7769836515
3/9/2022 11:35:32	M.Anusha	FEMALE	Degree 1st year	<a href="#">B.sc</a>	NSPR women's college	Hindupur	515201	Anthapuram	7799108656
3/9/2022 11:38:35	M.Anusha	FEMALE	Degree 1st year	<a href="#">B.Sc</a>	NSPR GDC women's college	Hindupur	515201	Andhra Pradesh	7799108656
3/9/2022 12:00:08	Reddyboyina Sagar babu	MALE	Degree	BZC	SGK GOVT DEGREE COLLEGE	Vinukonda	522647	Andhrapradesh	9030904402
3/9/2022 12:08:33	KOMARLA VENKATESWARLU	MALE	<a href="#">M.Sc</a>	Physics	Government College For Men	Kadapa	516004	Andhra Pradesh	9492592711
3/9/2022 12:27:13	Gadi srinivas	MALE	Degree	<a href="#">B.sc</a>	Govt degree college	Pithapuram	533054	AP	8688526258
3/9/2022 12:50:22	M.Tamilarasu	MALE	M SC Chemistry	Chemistry	Government arts college autonomous Coimbatore	Coimbatore	641018	Tamil Nadu	8680893759

3/9/2022 12:54:17	REDDY MEGHANA SAI SRI AMBICA	FEMALE	BSC 1ST YEAR	MPC	GOVERNMENT DEGREE COLLEGE,RAJAMAHENDRAVARAM	Rajahmundry	533103	Andhra Pradesh	08125344288
3/9/2022 13:47:02	Juthuka Narendra Raju	MALE	3rd MPEle	<a href="#">B.Sc</a>	P.R.G.college (A), kakinada	Kakinada	533001	Andhrapradesh	7989438121
3/9/2022 13:53:08	A M SHANMUGESH	MALE	<a href="#">M.Sc</a>	Chemistry	NATIONAL COLLEGE	TRICHY	639103	TAMILNADU	9751225570
3/9/2022 13:55:42	C. Kamala	FEMALE	3rd bsc	Mpcs	Psc&kvsc govt degree college nandyal	Panyam	518112	Andhra pradesh	8297308554
3/9/2022 13:57:32	Y.KUMARI	FEMALE	Degree final year	MPC	PSC&KVSC GOVT.DEGREE COLLEGE	Nandyal	518502	Andhrapradesh	9618042237
3/9/2022 14:21:10	Roopam Verma	FEMALE	M.Sc. 3rd semester	Chemistry	Milk pg college blp	Blp	271201	Uttar Pradesh	9939155152
3/9/2022 14:36:41	Satya	FEMALE	2nd BSc	Cbz	A. S. D. Govt. Degree college for women (autonomous)	Kakinada	533002	Andhra Pradesh	7013927445
3/9/2022 16:10:30	T.sai durga bhavani	FEMALE	Studying Second year degree	Bsc(Mecs)	P.R Government College	Kakinada	533006	Andhrapradesh	6309767736
3/9/2022 16:37:31	KOMMOJU ASHALATHA	FEMALE	3rd B.SC Degree	MPC(TM)	GOVERNMENT DEGREE COLLEGE (Autonomous)	Tuni	533401	Adhara Predesh	9533167265
3/9/2022 16:48:00	Mohammed Ahmad Abbas	MALE	B.sc(computers)	MPCs	Government Degree College,razole	Mamidikuduru	533247	Andhra Pradesh	6281905616
3/9/2022 17:25:16	Padagala Veera Vanitha	FEMALE	Degree 2nd year	Bsc(Computer science)	Government Degree College	Mandapeta	533308	Andhra Pradesh	9640674977
3/9/2022 17:36:08	Manikanta	MALE	2nd bsc	Mpcs	GDC razole	Razole	533249	Andhrapradesh	8919269135
3/9/2022 17:51:16	RELA GĀÑESH	MALE	II BSC	MPCS	PR government degree college, Kakinada	Kakinada	533445	Andhra Pradesh	9848946839
3/9/2022 17:53:21	VEERAMREDDY GANESH	MALE	ISt (BSC) FBC	BSC	PRGC (A) Kakinada	Chebrolu	533449	Andra Pradesh	6305843651
3/9/2022 18:04:53	S.selvalakshmi	FEMALE	B.sc chemistry	Chemistry	Sri sarada college for women	Thirunelveli	627010	Tamil Nadu	9789496465
3/9/2022 19:35:01	R. Muthumeenakshi	FEMALE	III year	B. Sc. Chemistry	Sri Sarada College for Women	Tirunelveli	627011	Tamil Nadu	9345874283
3/9/2022 19:36:04	RAPARTHI MOHAN VRNKATA DURGA VEERESH	MALE	III BSC EM	BZC	PRGC (A) KAKINADA	Kakinada	533001	Andhra pradesh	9493838000
3/9/2022 20:04:38	T.venkata prasad	MALE	3rd B.Sc mpc t/m	Mpc	Mpc	Nandyal	010	Kurnool	7702143246
3/9/2022 20:47:59	A. JHANSI RANI	FEMALE	Degree 3rd year	III BSc(M.P.Cs)	PSC&KVSC GOVT. DEGREE COLLEGE	Nandyal	518502	Andhrapradesh	8121109337
3/10/2022 6:48:43	Akkapelli Anjali	FEMALE	Degree Final year	B.Sc (Mpcs)	SRR Govt arts and science college Karimnagar	Karimnagar	505451	Telangana	8688283035
3/10/2022 10:16:47	Durga Prasad Kaki	MALE	Degree	B.Sc (M.P.C)	Government Degree College	Seethanagaram	533287	Andhra Pradesh	8688092975
3/10/2022 10:18:11	KODURI SIMHADRI	MALE	III B.SC( MPC)	B.SC(MPC)	Government Degree College Seethanagaram	Rajahmundry	533287	Andhra Pradesh	6301819139

3/10/2022 10:18:39	INDUKURI SURYA	MALE	IIIrd	B.Sc[M.P.C]	Government degree college	Seethanagaram	533287	ANDHRA PRADESH	9885056507
3/10/2022 10:21:21	NITHISH VARMA	MALE	III Bsc(Bzc)	Bsc(Bzc)	GDC seethanagaram	Rajamahedri	533287	Andhrapradesh	6303027497
3/10/2022 11:00:30	P pushpa lakshmi	FEMALE	3rd bsc mpc	Mpc	Government degree college seethanagaram	Seethanagaram rajamundry	533287	Andra Pradesh	9391861315
3/10/2022 11:16:20	Thotta satyanarayana	MALE	3rd year	Bsc(MPC)	GDC seethanagaram	Rajamundry	533293	Andhra Pradesh	9948275164
3/10/2022 11:16:28	THAVITIKI NEERAJA	FEMALE	III BSC	MPC	GDC, Seethanagaram	Seethanagaram	533287	Andhra pradesh	9014490061
3/10/2022 11:16:34	Jureddy Deena Sai satya	FEMALE	III BSC	MPC	GDC Seethanagaram	Seethanagaram	533287	Andra pradesh	8688095648
3/10/2022 11:20:23	P. Yaswanth	MALE	Msc chemistry	1 year	Nallamthu gounder mahalingam college	Pollachi	642002	Tamil Nadu	6383878718
3/10/2022 11:41:05	Thotta satyanarayana	MALE	3rd year	Bsc (MPC)	GDC seethanagaram	Rajamundry	533293	Andhra Pradesh	9948275164
3/10/2022 11:57:57	Sheik Nageena	FEMALE	III year	Bsc (Bzc)	GDC Seethanagaram	Seethanagaram	533287	Aandhra Pradesh	934643961
3/10/2022 11:57:57	Chitrothu pravallika	FEMALE	III year	Bsc(BZC)	GDC seethanagaram	Seethanagaram	533287	Andhrapradesh	6301241124
3/10/2022 11:57:57	Pragada Mohinisai	FEMALE	III year	Bsc (bzc)	Government degree college seethanagaram	Seethanagaram	533287	Andhara pradhash	8074591010
3/10/2022 13:12:15	Challa manasa	FEMALE	Degree completed	Bsc	Tswrdc w karimnagar	Hyd	505004	Telangana	9392366745
3/10/2022 14:08:13	Vemudasi sampurna	FEMALE	IBsc(mpc)sec-2	Mpc (se-2)	GOVERNMENT CLG(AUTONOMOUS)	BURUGUPUDI	5332	Andhra pradesh	7337243375
3/10/2022 15:21:13	Bisma waheed	FEMALE	2nd semester	Chemistry	GDC Pampore.	Srinagar	192121	Jammu and Kashmir	8491875741
3/10/2022 15:24:27	Kavati Shiresha	FEMALE	Chaitanya Deemed to be University	M.Sc Chemistry	Chaitanya Deemed to be University	Hanamkonda	506001	Telangana	9440248875
3/10/2022 15:28:29	DINESHKUMAR. K	MALE	m.sc chemistry	stufent	GOBI ARTS &SCIENCE COLLEGE	pennagaram	636810	tamilnadu	9787655346
3/10/2022 15:32:39	D.Rasheedabi	FEMALE	<u>M.Sc</u>	Organic chemistry	SPMVV, Tirupati	Kurnool	518135	Andhra Pradesh	09640872880
3/10/2022 15:52:00	DARAPU JAYA SRI	FEMALE	1st Bsc	Mpcs	Asd gov women's college	Kakinada	533001	Andhrapradesh	9110706813
3/10/2022 15:53:29	Souradeep Hazra	MALE	B Sc (6th semester)	Chemistry	Uluberia College	Uluberia	711316	West y	8972919096
3/10/2022 15:53:54	KARRI SANDHYA	FEMALE	Degree 1st year BSc	MPC	ASD GOVERNMENT WOMENS COLLEGE	KAKINADA	533002	ANDHRA PRADESH	9381855300
3/10/2022 15:54:14	Lavanya sripadam	FEMALE	Degree 1st year	B.Sc ( mpcs)	ASD government degree clg	Kakinada	533461	Andhra pradesh	6303445196
3/10/2022 15:55:43	k venkata laxmi	FEMALE	Bsc	MPC	ASD government college for degree(autonomus	kakinada	533002	andhra pradesh	7416347977
3/10/2022 15:55:57	Sappa deepika	FEMALE	Degree 1st year	B.sc (mpcs)	ASD Degree govt clg	Kakinada	533016	Andhra Pradesh	8885228584
3/10/2022 15:56:26	R. Mani	FEMALE	1 bsc	Mpcs	Asd	Kakinada	533464	Andhra pradesh	9666191147
3/10/2022 15:56:55	Malladi malini	FEMALE	Degree 1st year	B. Sc (mpc)	Asd govt degree college	Kakinada	533001	Andhrapradesh	8309646055

3/10/2022 15:57:01	Panchada Lakshmi kantam	FEMALE	1 st year	Bsc(Mpcs)	ASD government degree College for women	Kakinada	533002	Andhra Pradesh	9182150110
3/10/2022 15:57:19	CH.surya bhavani.	FEMALE	Degree 1st year	BSc(mpcs)	ASD government degree clg	Kakinada	533016	Andhra Pradesh	6303448320
3/10/2022 15:58:07	Mosa.Sowjanya	FEMALE	1st B.SC	Mpcs	A.S.D. govt. Degree college for women	Kakinada	533002	Andhra Pradesh	6302184034
3/10/2022 15:58:12	Petta Nikitha	FEMALE	I st degree	Bsc mpcs	Asd	Kakinada	533002	Andhra Pradesh	8639499663
3/10/2022 15:58:15	Padmavathi	FEMALE	2st bsc	Mpcs	ASD govt.degree clg	Kakinda	533002	Andhra Pradesh	8008803570
3/10/2022 15:58:34	Panchada Lakshmi kantam	FEMALE	1 st year	Bsc(Mpcs)	ASD government degree College for women	Kakinada	533002	Andhra Pradesh	9182150110
3/10/2022 15:59:07	Deeka Deepika	FEMALE	Degree 1st year	B.sc (mpcs)	ASD government degree for womens clg	Kakinada	533016	Andhra Pradesh	8885228584
3/10/2022 15:59:22	Lavanya sripadam	FEMALE	Degree 1st year	BSc(mpcs)	ASD government degree clg for women	Kakinada	533461	Andhra Pradesh	6303445196
3/10/2022 15:59:43	Seeram surya prasanna	FEMALE	1st year	Bsc(mpcs)	Asd government degree College	Kakinada	533002	Andhra Pradesh	8919531095
3/10/2022 16:00:23	Rajamemu.Bhavana	FEMALE	Degree	BSC mpc	A.S.D Government Degree college Kakinada	Kakinada	533001	Andhra Pradesh	7569983159
3/10/2022 16:01:01	ch.satya	FEMALE	1st B. sc	MPC	A. S. D degree women's college	Kakinada	533001	Andhra Pradesh	7032583342
3/10/2022 16:01:02	T.kalyani	FEMALE	1st B.Sc	Mpc	A.s.d women's degree College	Kakinada	533001	Andhra Pradesh	6305963931
3/10/2022 16:05:19	M.Devi Sri deepthi	FEMALE	1st B.Sc	MPC	A.S.D degree women's college (autonomous)	Kakinada	533001	Andhra Pradesh	9963116548
3/10/2022 16:23:46	S.Sindhya	FEMALE	Studying	Chemistry	Sri GVG visalakshi college for women Autonomous	Udumalpet	642128	Tamilnadu	6381900131
3/10/2022 16:26:59	Indhu perla	FEMALE	Degree	Mpcs	A.s.d degree college for women's	Kakinada	533001	A.p	9347067175
3/10/2022 16:27:11	K.Janani	FEMALE	II B.Sc chemistry	Chemistry	Sri GVG visalakshi collage for women	Udumalpet	642128	Tamilnadu	9003792030
3/10/2022 16:28:21	Bhanu talagana	FEMALE	3 Bsc	Mpcs	Asd govt degree college for women(A)	Kakinada	533002	Andhrapradesh	9014517434
3/10/2022 16:28:41	Indhu perla	FEMALE	Degree	Mpcs	A.s.d degree college for women's	Kakinada	533001	Ap	9347067175
3/10/2022 16:29:42	G. Nandhini	FEMALE	III B. Sc Chemistry	Chemistry	Sri GVG Visalakshi college for women	Udumalpet	624615	Tamil Nadu	09952634303
3/10/2022 16:42:03	M. PAALPANDIYAMMAL	FEMALE	III YEAR Undergraduate	B.SC CHEMISTRY	SRI GVG VISALAKSHI COLLEGE FOR WOMEN	Palani	624618	Tamil Nadu	6369706279
3/10/2022 17:00:36	vishnujayapriya.D	FEMALE	III B.Sc chemistry	Chemistry	Sri GVG Visalakshi college for women	Udumalpet	-	Tamil nadu	9047046954
3/10/2022 17:02:55	P.chandana	FEMALE	3rd Bsc	Mpcs	A.S.D govt degree College for women	Gollapalem	533468	Andhra Pradesh	7093294863
3/10/2022 17:06:06	SHARANYA.R	FEMALE	II Yr	B.Sc Chemistry	SRI GVG VISHALAKSHI COLLEGE FOR WOMEN, UDUMALPET	TIRUPPUR	642128	TAMIL NADU	8668098772
3/10/2022 17:13:13	Ajitha. V	FEMALE	Studying	III B. Sc chemistry	Sri GVG visalakshi college for women, udumalpet	Udumalpet	685620	Kerala	8078381554
3/10/2022 17:20:37	Darshana Barse	FEMALE	Msc 1	...	Asian college Pune	Pune	41104	Maharashtra	7350979754

3/10/2022 17:25:59	S.Sowmiya	FEMALE	IIB.Sc Chemistry	Chemistry	Sri GVG visalakshi college for women	Udumalpet	642122	Tamil Nadu	7010143542
3/10/2022 17:47:37	Naga prasanna	FEMALE	3rd BSC	Mpcs	ASD GOVT DEGREE college For women's Kakinada	Kakinada	533002	Andhra Pradesh	9392159239
3/10/2022 17:49:25	R meghana	FEMALE	Bsc 1st year	Mpc	Government degree college autonomous	Rajahmundry	533103	Andhra Pradesh	08125344288
3/10/2022 17:51:53	T. Sireesha	FEMALE	III Bsc	Mpcs	ASD Govt degree college for women (A)	Kakinada	533002	Andhrapradesh	9573316696
3/10/2022 17:53:20	G. Lakshmi Deepika	FEMALE	3rd - BSC	MPCS	A.S.D.Govt degree College for women's, Kakinada	Kakinada	533001	Andhra Pradesh	9603527235
3/10/2022 17:53:55	SIRIKI DIVYA	FEMALE	Degree	BSC(mpcs)	A.s.d.govt.degree college for women (A)	Kakinada	533016	Andhra Pradesh	9705789416
3/10/2022 18:00:48	Komalimanikanta	FEMALE	III bsc mpcs	Mpcs	ASD govt degree clg for women kkd	Kakinada	533448	Andhar pradesh	8688261112
3/10/2022 18:04:39	Harika k	FEMALE	Degree 1st year	Mpcs	Adhikavi nannaya university	Kakinada	533002	Andhrapradesh	7989325709
3/10/2022 18:09:21	J swathi	FEMALE	3rd bsc	Mpcs	Adhikavi nannaya University	Kakinada	533001	Andhra Pradesh	9866996684
3/10/2022 18:11:19	Kulla Ramya	FEMALE	III Bsc mpcs	Mpcs	ASD Govt Degree College (women)	Jagannaikpur	533002	Andhra Pradesh	6305304739
3/10/2022 18:26:14	K.vimaladevi	FEMALE	III BSc	MPcs	ASD govt degree college for women	kakinada	533002	A.P	6301399156
3/10/2022 18:29:24	VATARI OMRAJYALAKSHMI	FEMALE	BSC	MPCS	Adikavinanaya University	Kakinada	533001	Andhra Pradesh	7207106359
3/10/2022 18:35:32	Vijaya durga polisetti	FEMALE	Pursuing degree final year	Bsc(Mpcs)	A.S.D.GOVT.DEGREE COLLEGE FOR WOMEN (AUTONOMOUS)	Kakinada	533002	Andhra Pradesh	6303200035
3/10/2022 18:43:54	Chandrika	FEMALE	1 st year	Bsc mpcs	A.S.D Government degree college for woman's (autonomous)	Kakinada	533001	East godavari	9550327752
3/10/2022 19:05:51	P.SUHITHA	FEMALE	Studying	BSC-CHEMISTRY	KSR ART&SCIENCE COLLEGE FOR WOMENS	THIRUCHENCODE	637 - 211	TAMIL NADU	7548843940
3/10/2022 19:07:11	Shaik..Saajida	FEMALE	Graduation 3rd year	Bsc(mpcs)	A.S.D.Govt degree college for women [ A]	Kakinada	533002	Andhra Pradesh	8331835179
3/10/2022 19:07:57	B.princi reeta	FEMALE	Bsc	Chemistry	SRI gvg VISHALAKSHI COLLEGE FOR WOMEN	Udumalpet	642205	Tamilnadu	8637646274
3/10/2022 19:08:02	J. Sivaselvi	FEMALE	III BSc	Chemistry	Sri GVG vishalakshi college for women	Palani	624601	Tamilnadu	8610551935
3/10/2022 19:18:22	Asha Jyothi turangi	FEMALE	3rd BSC	MPCS	A.S.D GOVT DEGREE COLLEGE FOR WOMEN (A)	Kakinada	533002	Andhra Pradesh	9390889061
3/10/2022 19:20:46	Sumit Patidar	MALE	MSC	Chemistry	Govt. Holkar (Model, Autonomous) Science College, Indore	Barwani	451556	Madhya Pradesh	9754994674
3/10/2022 19:41:39	G chinnari	FEMALE	3 BSc	MPCs	Adhi kavi nannaya	Kakinada	533002	Andhra pradesh	9951475737
3/10/2022 19:56:34	G. P. Vishnuprabaa	FEMALE	1- B.Sc.CHEMISTRY	Chemistry	KSR College Of Arts And Science For Women	Erode	638314	Tamilnadu	8973013900
3/10/2022 20:02:24	Medapati Navya sri	FEMALE	Bsc	MPC	ASD gov degree college	Kakinada	533461	Andhrapradesh	9381936973



3/10/2022 20:07:05	Sainikita yelugubanti	FEMALE	1year degree	Bsc mpc	ASD govt degree college for women kakinada	Kakinada	533001	Andhra Pradesh	8121816434
3/10/2022 20:11:38	Sainikita yelugubanti	FEMALE	1st year degree	Bsc mpc	ASD govt degree college for women	Kakinada	533001	Andhra Pradesh	8121816434
3/10/2022 20:26:20	Vanka. Haritha	FEMALE	Ug( first year)	B.sc (Mpc)	ASD government degree college(W)	Kakinada	533002	Andhrapradesh	9392648144
3/10/2022 20:31:28	SIVAMGALA ESTHER RANI	FEMALE	Degree Final year	BSC(BZC)	GOVERNMENT DEGREE COLLEGE KOVVUR	Kovvur	534350	Andhrapradesh	7995214918
3/10/2022 20:31:51	SINGURU NAGA RATNA KRISHNA SAI KUMAR	MALE	B.S.C.MCIC	MCIC	Government degree college Men Srikakulam	Srikakulam	532001	Andharapradesh	9505804842
3/10/2022 20:36:16	Esukapalli Pavani	FEMALE	Pg	Organic chemistry	Government degree college for women	Vinukonda	522001	Andhra Pradesh	6304713162
3/10/2022 20:36:32	CHEKKA sahithi	FEMALE	3 rd year	Bzc	Government degree College tuni A	Tuni	533401	Andhra Pradesh	7672051381
3/10/2022 20:37:50	Mallesh	MALE	Degree 1st year	Mscs	APRDC	Macharla	522439	Andra Pradesh	9182071511
3/10/2022 20:37:55	VARSHINI. N	FEMALE	I B.sc Chemistry	Chemistry	Sri G.V.G visalakshi college for women	Udumalpet	642126	Tamil nadu	8144480925
3/10/2022 20:51:26	Arthur Divya	FEMALE	Final year	Bsc BHC	PVKN Govt (A) Degree College	Chittoor	517002	Andhra Pradesh	7680006577
3/10/2022 20:56:06	Eyyunni Pardha Saradhi Ayyangar	MALE	2nd year	B.Sc CBZ	SPACES DEGREE COLLEGE	PAYAKARAOPEETA	531126	Andhra Pradesh	6300649962
3/10/2022 20:56:17	Rayudu mallisri	FEMALE	3 rd year degree	Mpc	Government degree college tuni (autonomous)	Tuni	533401	Ap	8688692977
3/10/2022 21:14:09	GEETHANJALI.D	FEMALE	BSC.CHEMISTRY IYEAR	biology	SRI.G.V.G.VISALAKSHI.COLLEGE	Udumalpet	642126	Thirupur	87604 80073
3/10/2022 21:15:07	SUKIRTHA BM	FEMALE	I Bsc chemistry	Science	Sri GVG Vishalaksi College For Women	UDUMALPET	642132	TAMIL NADU	8807057266
3/10/2022 21:15:49	Udaykumar	MALE	<a href="#">B.com</a>	Computer applications	Gov.t college for men kadapa	Kadapa	526002	Andhra Pradesh	9550669624
3/10/2022 21:16:40	SUKIRTHA BM	FEMALE	I Bsc chemistry	Science	Sri GVG Vishalaksi College For Women	Udumalpet	642132	TAMIL NADU	8807057266
3/10/2022 21:17:59	SUKIRTHA BM	FEMALE	I Bsc chemistry	Science	Sri GVG Vishalaksi College For Women	Udumalpet	642132	TAMIL NADU	8807057266
3/10/2022 21:27:48	MALLADI SUDHA SRI	FEMALE	Ist B.Sc	MPC	ASD GOVT DEGREE COLLEGE FOR WOMENS	KAKINADA	533001	ANDHRA PRADESH	9502319369
3/10/2022 21:41:17	Bonthu Narayanarao	MALE	Degree	MPC	MR Degree College (Fort Campus), Vizianagaram.	Vizianagaram	535217	Andhra Pradesh	7675090049
3/10/2022 21:59:43	T. Gowthami	FEMALE	III - B.SC CHEMISTRY	Chemistry	J. K. K. Nataraja college of Arts and science kumarapalayam	Nammakal	637403	Tamil nadu	6379466690
3/10/2022 22:02:44	M.Pavani	FEMALE	III BSC	Mpcs	ASD GOVT DEGREE COLLEGE FOR WOMENS (A) KAKINADA	Kakinada	533001	Andhra Pradesh	9951673126
3/10/2022 23:05:38	Dharani V	FEMALE	II- M.Sc	Chemistry	J.K.K.Nataraja College of Arts and Science	Salem	637303	Tamilnadu	9345751144

3/11/2022 5:20:08	Janarthanan V	MALE	II M.Sc	Chemistry	J K K Nataraja college of arts and science, komarapalayam Namakkal, Tamilnadu.	Salem	637502	Tamil Nadu	+919047237094
3/11/2022 6:14:04	Anitha.G	FEMALE	II - Bsc Chemistry	Chemistry	KSR College of arts and science for women	Tiruchencode	637215	Tamil Nadu	9629004216
3/11/2022 8:19:12	Dr. Ramesh B	MALE	Lecturer in Physics	GDC, NAGARI	Government Degree College, NAGARI	NAGARI	517590	Andhra Pradesh	9573065618
3/11/2022 8:35:50	V A ELLAPPAN	MALE	3rd BSc[MPC]	BSc (MPC)	Government Degree college , Nagari , Chittoor , Andhra Pradesh	Nagari	517592	Andhra Pradesh	7207182940
3/11/2022 8:36:28	A.R.Gayathri	FEMALE	Bsc final year	Bzc	Govt. degree college nagari	Nagari	517590	Andhra Pradesh	7416899023
3/11/2022 8:53:13	JAI SANKAR E	MALE	M.Sc B.ed	CHEMISTRY	ARLM MHSS	CUDDALORE	607001	TAMILNADU	9791282129
3/11/2022 9:06:40	T.Durga Mounika	FEMALE	Bsc 2year	FBC	PR.Govt college(A)kakinada	Kakinada	533001	Andhra pradesh	9392047050
3/11/2022 9:08:50	B.Akash	MALE	Bsc 2 year	FBC	PR.Govt college(A) kakinada	Kakinada	533001	Andgra pradesh	9182552968
3/11/2022 9:21:22	Vallu. Surya vijaya sri	FEMALE	1st B. Sc	Mpc	ASD womens college for degree in kakinada jaganaickpur	Karapa, karapa mandalam	533462	Andhra pradesh	7013453777
3/11/2022 10:03:26	Kavipriya.A	FEMALE	Studying	Chemistry	KSR College of Arts and Science For Women's	Namakkal	638182	Tamil Nadu	8220397770
3/11/2022 10:35:06	Pavani Mahalakshmi Jeeri	FEMALE	III B.Sc	MPCs	A.S.D.Govt.Degree College for Women (A)	Kakinada	533001	Andhrapradesh	8121412001
3/11/2022 11:24:14	MOHAMED WASIM S	MALE	STUDIED	CHEMSIRTY	VHNSN COLLEGE	Viruchunagar	626001	Tamil Nadu	7806896067
3/11/2022 12:32:03	G. Surekha	FEMALE	/// rd BSC	MPCS	Asd govt degree womens college	KAKINADA	533002	Ap	8143268977
3/11/2022 12:35:14	Esukapalli Pavani	FEMALE	PG	Organic chemistry	Government degree college for women	Guntur	522001	Andhra Pradesh	6304713162
3/11/2022 12:59:21	Vallu Bhagya Lakshmi Devi	FEMALE	III Bsc	Mpcs	A. S. D. Govt. Degree college for women's kakinada	Kakinada	533002	Andhrapradesh	7989507698
3/11/2022 13:22:28	M.Divyaroop	FEMALE	BSC	MPCs	ASD Govt degree women's college (A)	Kakinada	533001	Andhra Pradesh	9392751008
3/11/2022 13:44:56	M. Reddy Harshith	MALE	Sr Intermediate	MPC	Sri Chaitanya College	Tirupati	517501	Andhra Pradesh	7780110944
3/11/2022 14:08:23	Durga Prasad Kaki	MALE	3rd year	B.Sc (M.P.C)	Government Degree College	Seethanagaram	533287	Andhra Pradesh	8688092975
3/11/2022 14:44:22	N V N V Satyanarayana	MALE	3rd BSC	mccs	Government degree college (A).tuni	Tuni	533401	Andhra Pradesh	7780176849
3/11/2022 14:44:47	Pukkalla.tejaswini	FEMALE	3bcs mpcs	Mpcs	Asd govt degree college for womens	Kakinada	533002	Andhra pradesh	6300691238
3/11/2022 14:50:23	M.divyabharathi	FEMALE	III yera	Bsc(mpcs)	Adhikavi nannaya university	Kakinada	533229	Ap	9989617404
3/11/2022 16:15:58	AKULA MAHESWARI	FEMALE	STUDYING	MSC ORGANIC CHEMISTRY	GOVERNMENT COLLEGE ( A )	RAJAMUNDRY	533101	ANDHRA PRADESH	9398444387
3/11/2022 17:10:52	CHAPPIDI GANGA BHAVANI	FEMALE	Pg 2 year	Msc organic chemistry	Arts college autonomous	Ambhaajipeta	533224	Andhrapradesh	9515288478

3/11/2022 17:18:50	K.Manikanta	FEMALE	<a href="#">IIIB.sc</a>	MPC	ASD govn.t degree college	Penuguduru	533016	Andhra Pradesh	9398739673
3/11/2022 17:21:00	K.Manikanta	FEMALE	III B.sc	MPC	ASD Govn.t degree college	Penuguduru	533016	Andhra Pradesh	9398739673
3/11/2022 17:29:49	Anand Kumar kotlinka	MALE	Msc organic chemistry	Msc	Government college of autonomous	Rajahmundry	533449	Andhra Pradesh	9014454328
3/11/2022 18:05:35	K. Satya Sowjanya	FEMALE	1st Bsc	MPCS	ASD Govt degree college	Kakinada	533002	AP	9182190235
3/11/2022 20:39:00	Chandala.mahalakshmi	FEMALE	Degree	MPC	ASD WOMEN'S COLLEGE	Kakinada	533001	East godavari	9381211925
3/11/2022 20:41:24	Devani Nagalakshmi	FEMALE	3 Rd BSc (bzc)	Bzc	Government degree College ( A)tuni	Tuni	533401	Andhra Pradesh	9390485764
3/11/2022 21:24:13	K. Neela veni	FEMALE	3 Bsc	Mpc	A. S. D govt degree college for women	Kakinada	533002	Andhrapradesh	8106439334
3/11/2022 21:26:33	R.Nagalakshmi	FEMALE	III BSC	MPC	ASD govt degree college for women kakinada	Kakinada	533002	Andhra Pradesh	9347917245
3/11/2022 22:24:03	Thadepu Uday Kiran	MALE	3 year Bsc	Electronics	Mrs AVN college	Visakhapatnam	530016	Andhra Pradesh	8465845601
3/11/2022 22:58:10	Abhimanu Kumar	MALE	M.Sc Chemical Science Research	B+	T. M. Bhagalpur University, Department of Chemistry, Bhagalpur.	Bhagalpur	813222	Bihar	7765070253
3/12/2022 8:39:20	SIDDANI SIVAJI GANESH	MALE	3 rd BSC	MPC EM	Govt autonomous college	Rajamundry	533103	Andhra Pradesh	7382912121
3/12/2022 12:49:27	Gottimukkula Ajay	MALE	Degree 1st year	B.sc B Z C	Government degree college	Vinukonda	522647	Andhra Pradesh	9014408100
3/12/2022 12:51:16	Gottimukkula Ajay	MALE	Degree 1 st year	B SC bzc	Government degree college	Vinukonda	522647	Andhra Pradesh	9014408100
3/12/2022 13:29:42	MUNEERA PARVEEN.S	FEMALE	Bsc.Chemistry 1st year	Chemistry	Sri G.V.G visalakshi college for women, Udumalpet	Udumalpet	642126	Tamilnadu	9345579013
3/12/2022 13:53:04	E.Nivetha	FEMALE	I-MSc	Chemistry	JKKN college of arts and science	Namakkal	638183	Tamil nada	8248096766
3/12/2022 13:53:11	U.RUBASHREE	FEMALE	I - M.SC Chemistry	Chemistry	JKKN College of arts and sciences	Namakkal	638183	TamilNadu	8344410781
3/12/2022 13:55:15	MANIKANDAN. P	MALE	I -M.Sc. CHEMISTRY	CHEMISTRY	J.K.K.N COLLEGE OF ARTS AND SCIENCE, KUMARAPALAYAM	NAMAKKAL	638183	TAMILNADU	6385569066
3/12/2022 14:22:12	Swapna madhukar borse	FEMALE	Msc second year	Organic chemistry	Maharaja Sayajirao gaikwad art science and commerce college malegaon camp	Malegaon	423208	Maharashtra	7385705749
3/12/2022 14:23:16	Swapna madhukar borse	FEMALE	Msc second year	Organic chemistry	Maharaja Sayajirao gaikwad art science and commerce college malegaon camp	Malegaon	423208	Maharashtra	7385705749
3/12/2022 14:34:49	Sawant Prachi Rajesh	FEMALE	MSC II	Organic chemistry	Maharaja Sayajirao Gaiyekwad college malegaon camp, Malegaon, Nashik	Malegaon	423203	Maharashtra	9422588936
3/12/2022 14:44:02	T. Ramya Sukhy	FEMALE	I- M.Sc Chemistry	Chemistry	JKK Nataraj college of arts and science	Komarapalayam	638183	Tamil Nadu	6379093027

# National Level Online Quiz on "Nuclear Science and its Applications" on 13.03.2022.

Organized by Departments of Physics and Chemistry, A.S.D.Government College(A), Kakinada on the Occasion of two day National Seminar on 16-17 March, 2022.

---

\* Required

1. Email \*

---

2. Name of the Participant \*

---

3. Name of the College Studying \*

0 points

---

4. Address of the College \*

---

5. Pin Code \*

---

6. State \*

---

7. Mobile Number \*

---

National Level Online Quiz on "Nuclear Science and its Applications" on 13.03.2022.

8. Isotopes differ in

1 point

*Mark only one oval.*

- Number of protons
- Number of neutrons
- Number of electrons
- Number of positrons

9.  $^{18}\text{Ar}40$ ,  $^{19}\text{K}40$  and  $^{20}\text{Ca}40$  are

1 point

*Mark only one oval.*

- Isotopes
- Isotones
- Isobars
- Isodiapheres

10. The half – life of a radioactive nuclide is

1 point

*Mark only one oval.*

- Directly proportional to the initial mass of the nuclide
- Inversely proportional to the initial mass of the nuclide
- Independent of the initial mass of the nuclide
- Directly proportional to square root of the initial mass of the nuclide

11. An alpha particle has the same composition as

1 point

*Mark only one oval.*

- Hydrogen nucleus
- Deuterium nucleus
- Helium nucleus
- Beryllium nucleus

12.  $\beta$  radiation is

1 point

*Mark only one oval.*

- transmutation of a neutron into a proton and electron. The electron is emitted.
- transmutation of a neutron into a proton and electron. The proton is emitted.
- transmutation of a proton into a neutron and electron. The electron is emitted.
- transmutation of a proton into a neutron and electron. The proton is emitted.

13. Which isotopic ratio is to be determined for calculation of age of ancient wooden objects?

1 point

*Mark only one oval.*

- Uranium – 235 to Uranium – 238
- Nitrogen – 15 to Nitrogen – 14
- Carbon – 14 to Carbon – 12
- Oxygen – 17 to Oxygen – 16

14. When a radioactive nuclide emits one  $\alpha$  particle and two  $\beta$  particles successively, the change in the composition of the resulting daughter nuclide is

1 point

*Mark only one oval.*

- Atomic number remains constant and mass number decreases by 4 units
- Atomic number decreases by two units and mass number decreases by 4 units
- Atomic number increases by two units and mass number remains constant
- Atomic number increases by two units and mass number decreases by 4 units

15. A positron has a mass number of \_\_\_\_\_, a charge of \_\_\_\_\_, and a mass equal to that of a(an) \_\_\_\_\_.

1 point

*Mark only one oval.*

- 0, +1, proton
- 1, +2, proton
- 0, +1, electron
- 1, +2, electron

16. When  $^{235}\text{U}$  is bombarded with one neutron, fission occurs and the products are three neutrons,  $^{94}\text{Kr}$ , and \_\_\_\_\_. 1 point

*Mark only one oval.*

- $^{139}\text{Ba}$   
  $^{141}\text{Ba}$   
  $^{139}\text{Ce}$   
  $^{139}\text{Xe}$

17. The half – life period of a radioactive element depends on 1 point

*Mark only one oval.*

- Amount of the element  
 Temperature  
 Pressure  
 None of the above

18. The half-life period of a radioactive element is 14 hours. The fraction of the radioactive element that disintegrates in 56 hours is 1 point

*Mark only one oval.*

- 0.125  
 0.25  
 0.0625  
 0.025

19. The radio isotope I – 131 is used to 1 point

*Mark only one oval.*

- Control nuclear reactors  
 Determine the age of fossils  
 Diagnose thyroid disorders  
 Trigger fusion reaction

20. Which of the following statements is true?

1 point

*Mark only one oval.*

- $\alpha$  particles are positively charged,  $\beta$  and  $\gamma$  particles carry no charge
- $\alpha$  particles are positively charged,  $\beta$  particles are negatively charged and  $\gamma$  particles carry no charge
- $\alpha$  particles are negatively charged,  $\beta$  particles are positively charged and  $\gamma$  particles carry no charge
- Both  $\alpha$  and  $\beta$  particles carry positive charge and  $\gamma$  particles carry no charge

21. Which of the following nuclides is the most stable?

1 point

*Mark only one oval.*

- Fe – 56
- Fe – 57
- C - 12
- U – 235

22. The atomic mass of thorium is 232 and its atomic number is 90. During the course of its radioactive disintegration  $6\alpha$  and  $4\beta$ -particles are emitted. What is the atomic mass and atomic number of the final atom respectively? 1 point

*Mark only one oval.*

- 208 and 82
- 206 and 82
- 204 and 82
- 210 and 82

23. Which of the following is the man-made radioactive disintegration series?

1 point

*Mark only one oval.*

- Thorium series
- Neptunium series
- Uranium series
- Actinium series



24. Narora Nuclear Power Plant is situated in

1 point

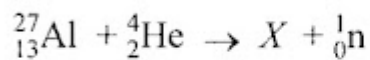
*Mark only one oval.*

- Andhra Pradesh
- Madhya Pradesh
- Uttar Pradesh
- Bihar

25.

1 point

Given the reaction:



When the equation is correctly balanced, the nucleus represented by  $X$  is

*Mark only one oval.*

- ${}_{13}\text{Al}30$
- ${}_{14}\text{Si}30$
- ${}_{15}\text{P}30$
- ${}_{16}\text{S}30$

26. Half-life for radioactive C14 is 5760 years. In how many years 200 mg of C14 sample will be reduced to 25 mg

1 point

*Mark only one oval.*

- 17280 years
- 23040 years
- 11520 years
- 5760 years

27. The unit of absorbed dose of ionizing radiation equal to an energy of 100 ergs per gram of irradiated material is called 1 point

*Mark only one oval.*

- Rad
- Sievert
- Curie
- Fermi

28. The symbol  $\alpha$  is used for 1 point

*Mark only one oval.*

- $\alpha$  particle
- $\beta$  particle
- Positron
- Neutron

29. Arrange in the increasing order of penetrating power 1 point

*Mark only one oval.*

- Beta, gamma, alpha
- Alpha, gamma, beta
- Gamma, beta, alpha
- Alpha, beta, gamma

30. A nuclide of the element plutonium  ${}_{94}\text{Pu}^{242}$ . What is the number of neutrons in its nucleus? 1 point

*Mark only one oval.*

- 242
- 336
- 148
- 94

31. An element X decays first by a positron emission and then two  $\alpha$  particles are emitted successively. If the product nucleus has atomic number 89 and mass number 229, the atomic number and mass number of X are respectively

1 point

*Mark only one oval.*

- 93, 273
- 94, 237
- 93, 238
- 92, 273

32. Heavy water is used in nuclear reactor

1 point

*Mark only one oval.*

- Transfer the heat from the reactor
- Increases the speed of neutrons for the fission reaction
- Reduces the speed of fast-moving neutrons
- For cleaning purpose

33. Generally, a stable nucleus has

1 point

*Mark only one oval.*

- Even number of protons and even number of neutrons
- Even number of protons and odd number of neutrons
- Odd number of protons and odd number of neutrons
- Equal number of protons and neutrons

34. The average life period of a radioactive element is

1 point

*Mark only one oval.*

- $1.44 t_{1/2}$
- $14.4 t_{1/2}$
- $0.144 t_{1/2}$
- $144 t_{1/2}$

35. When  ${}^{92}\text{U}^{235}$  absorbs a neutron and disintegrates into  ${}^{54}\text{Xe}^{139}$  and  ${}^{38}\text{Sr}^{94}$  and X, 1 point  
then what will be the product X?

*Mark only one oval.*

- $\alpha$  particle  
  $\beta$  particle  
 2 neutrons  
 3 neutrons

36. In Andhra Pradesh, the BARC unit was established in 1 point

*Mark only one oval.*

- Vijayawada  
 Visakhapatnam  
 Tirupati  
 Kurnool

37. BARC stands for 1 point

*Mark only one oval.*

- Bhabha Aluminium Research centre  
 Bhabha Atomic Research Centre  
 Bhabha Aquatic Research Centre  
 Bhabha Apparel Research Centre

---

This content is neither created nor endorsed by Google.

Google Forms

Score	Name of the Participant	Name of the College Studying	Address of the College	Pin Code	State	Mobile Number
5 / 30	P.veera venkata vijaya Lakshmi Devi	PR Government College	Near government hospital	533434	Andhra Pradesh	7981458456
7 / 30	Mallesh	APRDC	Vijayapuri south macharla Ap	522426	Andhra Pradesh	9182071511
12 / 30	Abhi	Asr	Asr diploma	534340	Andhra Pradesh	7569261736
11 / 30	Vishnujayapriya.D	III B.SC chemistry	Sri GVG Visalakshi college for women	642207	Tamilnadu	9047046954
9 / 30	Vighne Nikhil Bhausaheb	Msc Analytical chemistry	New arts commerce and science College	414502	Maharashtra	9146750777
6 / 30	Challa manasa	Tswrdc w karimnagar	Karimnagar	505004	Telangana	9392366745
4 / 30	Chekka sahithi	Government degree College tuni A	Tuni	533401	Andhra Pradesh	7672051381
10 / 30	Vijaya durga poliseti	ASD.GOVt DEGREE COLLEGE FOR WOMEN(A)	Jagannaickpur kakinada ,533002	533002	Andhra pradesh	6303200035
14 / 30	M.Paalpandiyammal	SRI GVG VISALAKSHI COLLEGE FOR WOMEN	UDUMALPET	624618	Tamil Nadu	6369706279
9 / 30	Uday Kiran	Mrs AVN college	Purna market, Visakhapatnam	530016	Andhra Pradesh	8465845601
12 / 30	PITTTU SRIKANTH REDDY	K.V.R, K.V.R&M.K.R COLLEGE	Khajipalem, guntur (district) 522329	522314	Andhra Pradesh	7730069368
5 / 30	Madhasu srinivasarao	Madhasu srinivasarao	Abn prr college kovvur srirama colony 2nd	534350	Andhra Pradesh	8106133867
15 / 30	Nivetha Eswaran	JkkNatraja college of arts and science	Komarapalayam	638183	Tamil nadu	8248096766
15 / 30	Mohammed Ahmad Abbas	Government degree college	Government degree college,razole	533242	Andhra Pradesh	6281905616
17 / 30	Rayudu mallisri	Government degree college (autonomous) tuni, final	Government degree college tuni ( autonomous)	533401	Ap	8688692977
25 / 30	Jai sankar	Working as a Teacher	Cuddalore	607001	Tamilnadu	9791282129
19 / 30	Ajitha. V	Udumalpet	Udumalpet	685620	Kerala	8078381554
9 / 30	Jureddy Deena Sai satya	III BSC	GDC seethanagaram	533287	Andra pradesh	8688095648
19 / 30	SUKIRTHA BM	Sri GVG Vishalaksi College For Women	2/68B,R.Velur,Sundakkampalayam (p.o),	642132	TAMIL NADU	8807057266
15 / 30	Selvalakshmi.s	Sri sarada college for women	Sri sarada college for women thirunelveli	627011	Tamil Nadu	9789496465
20 / 30	GEETHANJALI.D	SRI.G.V.G.VISALAKSHI.COLLEGE.V.G.visa	udumalpet ,palani ,thirupur District	642126	TAMIL NADU	87604 80073
14 / 30	Saajida shaik	A.S.D.Govt.Degree college for women] A]	Jagannaikpur	533002	Andhra Pradesh	8331835179
12 / 30	Juthuka. Narendra raju	P. R. G. College, kakinada	Kakinada	533001	Andhrapradesh	7989438121
22 / 30	G. P. Vishnuprabaa	KSR College Of Arts And Science For Women	Thiruchangode, namakkal (dt)	638314	Tamilnadu	8973013900
18 / 30	SHARANYA R	SRI GVG VISHALAKSHI COLLEGE FOR WOMEN	Venkatesa Mills post, Udumalpet, Tiruppr	638656	TAMIL NADU	8668098772
8 / 30	Chithrothu pravallika	GDC seethanagaram	Seethanagaram degree college	533287	Andhrapradesh	6301241124
18 / 30	Varshini. N	Sri G.V.G visalakshi college for women	Sri G.V.G visalakshi college for women, s	642 126	Tamil nadu	8144480925
15 / 30	Ganta Gangothri	3rd Bsc	Government degree college Tuni	533401	Andhrapradesh	9666750637
13 / 30	KANDUKURI DURGA PRASAD	Government Autonomous college Rajahmundry	Rajahmundry	533297	Andhra Pradesh	8106211108
12 / 30	Vemudasi sampurna	Government College ( autonomous)jry	D/no: 3-77,Bugourugupudi water tank chu	533292	ANDHRA PRADES	7337243375
10 / 30	U.Rubashree	I M.sc Chemistry	JKKN College of arts and sciences	638501	TamiINadu	8344410781
9 / 30	Naga prasanna	ASD GOVT DEGREE college For women's Kakinad	Jagannaickpur, Kakinada	533002	Andhra Pradesh	9392159239

20 / 30	Ajitha. V	Sri GVG visalakshi college for women udumalpet	Udumalpet	685620	Kerala	8078381554
12 / 30	A M SHANMUGESH	AAGAC, Musiri	Musiri, Trichy	621211	Tamil Nadu	9751225570
21 / 30	Pavani Mahalakshmi Jeeri	A.S.D GOVT DEGREE COLLEGE FOR WOMEN (A)	Avasarala vari Street	533001	Andhra Pradesh	+918121412001
9 / 30	RELA GANESH	PR GOVT DEGREE COLLEGE KAKINADA	KAKINADA	533445	AP	9848946839
12 / 30	Akkapelli Anjali	SRR Govt arts and science college Karimnagar	Karimnagar	505451	Telangana	8688283035
18 / 30	T. Ramya Sukhy	JKKNataraja college of arts and science, Komarapa	JKKNataraja college of arts and science,	638314	Tamil Nadu	6379093027
29 / 30	SIVAMGALA ESTHER RANI	GOVERNMENT DEGREE COLLEGE	KOVVUR West godavari	534350	Andhrapradesh	7995214918
16 / 30	K.Reshma	Prgc	Kakinada	533001	Andhra Pradesh	8919486308
22 / 30	SIDDANI SIVAJI GANESH	Govt autonomous college rajamundry	Govt autonomous college, rajamundry	533103	Andhra Pradesh	9642739643
14 / 30	M.Tamilarasu	Government arts college autonomous Coimbatore	Government arts college ,near race cours	641018	Tamil nadu	8680893759
22 / 30	Padagala Veera Vanitha	Government Degree college	Mandapeta	533308	Andhra Pradesh	9640674977
17 / 30	G. Surekha	///BSC MPCS	Jagannathapur KAKINADA	533462	Ap	8143268977
20 / 30	Pravallika Podila	P.R.Government degree college.kakinada.	P.R.Government degree College, Zp cent	533005	Andhra Pradesh	8179827504
14 / 30	AKULA MAHESWARI	GOVERNMENT COLLEGE ( A)	RAJAMUNDY NEAR Y_ JUNCTION , HP	533101	ANDHRA PRADES	9398444387
18 / 30	Harshitha	PRG(A) degree college	opposite Mc laurin school, Ramaraopeta.	533005	Andhra Pradesh	8247090416
28 / 30	M.pavani	ASD GOVT DEGREE COLLEGE FOR WOMEN (A)	Jaganayakpur kakinada	533001	Andhra pradesh	9390947637
18 / 30	VATARI OMRAJYALAKSHMI	ASD govt degree College for women A	Jaganaikpur kakinada	533001	Andhrapradesh	7207106359
5 / 30	B.Bhargavi	ASD govt degree college women (A) kakinada	Jaganayak puram	533001	Andhra Pradesh	8977286539
24 / 30	Annavarapu jyothis meghana	Meghana Annavarapu	Pr government college, kakinada	533001	Andhra Pradesh	07013522799

1st Prize

2nd Prize

3rd Prize

**A.S.D. Government Degree College for Women (Autonomous), Kakinada**

**Online Registrations for Two – Day National Seminar**

Timestamp	Email	Name of the participant	Designation	Mobile Number	Subject/ Discipline	Name of the institution	Address of the institution	State	City	Registration fee paid
3/9/2022 0:07:59	gvvsphd@gmail.com	G.V.V.SATYANARAYANA	Student	9642803114	Nuclear Physics	Department of Nuclear Physics	Andhra university	Andhra Pradesh	Visakhapatnam	Rs. 500
3/9/2022 9:47:30	kiransunku2016@gmail.com	Dr. S. Kiran	Faculty	8296475474	Chemistry	Government college (A)	Anantapur	Andhra Pradesh	Anantapur	Rs. 500
3/10/2022 11:12:45	bairlasurendra1246@gmail.com	Surendra Bairla	Faculty	9959991246	Chemistry	DRG Government Degree College	Tadepalligudem	Andhra Pradesh	Tadepalligudem	Rs. 500
3/11/2022 19:09:32	spratapg@gmail.com	Dr. G. PRATAP	Faculty	9884682597	CHEMICAL SCIENCES	MSN DEGREE COLLEGE	Msn Degree College, Kakinada, East Godavari	Andhra Pradesh	KAKINADA	Rs. 500
3/13/2022 8:21:23	penmethsavijay001@gmail.com	P.VIJAY KUMAR	Faculty	9652023082	Chemistry	P R GOVERNMENT COLLEGE (A)	Kakinada	Andhra Pradesh	KAKINADA	Rs. 500
3/13/2022 19:39:56	balayesuv@gmail.com	VALAPARLA BALA YESU	Faculty	8886771033	CHEMISTRY	SGK GOVERNMENT DEGREE COLLEGE	Sgk Government Degree College, Vinukonda, Guntur District, Pin - 522 647	Andhra Pradesh	VINUKONDA	Rs. 500
3/13/2022 19:44:04	bandlanageswararao78@gmail.com	BANDLA NAGESWARARAO	Faculty	9494662510	PHYSICS	SGK GOVERNMENT DEGREE COLLEGE	Chatragaddapadu Road, Vinukonda, 522647	Andhra Pradesh	VINUKONDA	Rs. 500
3/13/2022 20:51:25	kvskoti@gmail.com	Dr Kambala Venkata Siva Koteswara Rao	Faculty	8985432683	Chemistry	SGK Government Degree College	Vinukonda, Guntur District	Andhra Pradesh	Vinukonda	Rs. 500
3/13/2022 20:55:45	kvskoti@gmail.com	Dr Kambala Venkata Siva Koteswara Rao	Faculty	898542683	Chemistry	SGK GOVERNMENT DEGREE COLLEGE	VINUKONDA, GUNTUR DISTRICT	Andhra Pradesh	VINUKONDA	Rs. 500
3/15/2022 11:56:16	smdmasoodphy@gmail.com	SYED MASOOD AHAMMAD	Faculty	8328586311	PHYSICS	SML Govt Degree College	yemiganoor	AP	yemiganoor	Rs. 500
3/15/2022 18:57:58	spratapg@gmail.com	Dr. G. PRATAP	Faculty	9884682597	Chemistry	MSN DEGREE COLLEGE	KAKINADA	Andhra Pradesh	KAKINADA	Rs. 500



BARC Atomic Research Centre

## **A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN**

An autonomous and NAAC “B” Grade institution

Jagannaickpur, Kakinada - 533002

**DEPARTMENTS OF PHYSICS & CHEMISTRY**

**Two – Day National Seminar on**

**“Nuclear Science in Health and Environment”**

**16-17 March, 2022**

**In Association with BARC, Mumbai**

**Venue: Seminar Hall, First Floor, Admin Block**

### **Programme Schedule**

<b>Day / Date</b>	<b>Session / Time</b>	<b>Topic</b>	<b>Resource Persons</b>
<b>Day1 / 16-03-2022</b>	10.00-10.30 am	Registration	
	10.30-11.15 am	<b>Inauguration</b>	
	11.15-11.30 am	TEA BREAK	
	<b>Session 1</b> 11.30 am-1.00 pm	Career opportunities in Department of Atomic Energy	<b>Dr. S. K. Sharma</b>
	1.00 -2.00 pm	LUNCH BREAK	
	<b>Session 2</b> 2.00-3.30 pm	Nuclear power programme of Department of Atomic Energy	<b>Dr. M.V. Suryanarayana</b>
	3.30-3.45 pm	TEA BREAK	
	<b>Session 3</b> 3.45-5.00 pm	Radio isotopes in Human Health	<b>Dr. M. V. Suryanarayana</b>
<b>Day2 / 17-03-2022</b>	<b>Session 4</b> 10.00-11.15 am	Radiation & Environment	<b>Smt. P. Padma Savitri</b>
	11.15-11.30 pm	TEA BREAK	
	<b>Session 5</b> 11.30-1.00 pm	Invited talk	<b>Dr. K. Rajender Reddy</b>
	1.00-2.00 pm	LUNCH BREAK	
	<b>Session 6</b> 2.00-3.15 pm	Neutrons & Applications	<b>Dr. Rishi Verma</b>
	<b>Session 7</b> 3.15-3.30 pm	TEA BREAK	
	3.30-5.00 pm	VALEDICTORY FUNCTION	



**Dr. S. K. Sharma**



Dr. S K Sharma is Scientist-G of Bhabha Atomic Research Centre, Visakhapatnam. Prior to joining DAE in 2002, he has graduated from Government Engineering College, North Gujarat University - Patan, Gujarat in the year 2001. He has obtained PhD degree in Engineering Science from Homi Bhabha National Institute, Mumbai in 2014. He was also JSPS postdoctoral research fellow at Nagaoka University of Technology, Japan during 2017-18.

During his 19 years of tenure in DAE, he has built compact pulsed power systems, high energy capacitor banks and continuous neutron sources. He has extensively worked in the area of high voltage engineering, experimental plasma physics and electromagnetic. He has published about 30 articles in peer reviewed international journals apart from several conference papers. He is a doctoral supervisor in Electrical Engineering Department, Andhra University, Visakhapatnam; Metallurgy & Material Department, NIT Jamshedpur and School of Engineering Sciences, Homi Bhabha National Institute, Mumbai.

His primary specialization is electromagnetic and experimental plasma physics and currently working on new technologies on reactor applications.

**Dr. M. V. Suryanarayana**



Dr. MV Suryanarayana is Scientist-H of Bhabha Atomic Research Centre, Visakhapatnam. Prior to joining BARC, he has graduated from Kakatiya University, Warangal in the year 1986. He has obtained master degree in Chemistry from University of Hyderabad in the year 1988. He was the Gold Medallist of his batch. He has completed doctoral work in Physics in the year 2000 from Osmania University.

He is also MBA degree holder in Project Management and Finance.

During his 32 years of tenure in BARC, he has built mass spectrometers, atomic beam sources and other vacuum instruments. He has extensively worked in the area of high-resolution atomic laser spectroscopy, atomic physics, multi-step photoionization, multi-photon ionization, coherence in atomic system. He has published about 50 articles in peer reviewed international journals apart from several conference papers. He is a doctoral supervisor in Chemistry Department, Osmania University, Hyderabad; Andhra University, Visakhapatnam and School of Physics, Homi Bhabha National Institute, Mumbai.

His primary specialization is experimental and theoretical aspects of laser-atom interaction in gas phase and currently working on new technologies on isotopes for cancer treatment.

## P.PADMASAVITRI



Smt P. Padma Savitri is Scientist-G working as officer-in charge, Environmental Survey Laboratory in Health Safety Environment Group, BARC, Visakhapatnam. Smt P. Padma Savitri did her M.Sc. (Physics) from Central University, Hyderabad in 1989. She joined in 33<sup>rd</sup> batch training school, Bhabha Atomic Research Centre, Mumbai immediately. After her training she was posted in Health Physics Lab, Tarapur. She was involved in Radiation mapping around Tarapur Atomic Power Station and BARC facilities located in Tarapur. She had set up site emergency control room in HP Lab, Tarapur. In 2000 she was posed as Officer-in-charge, Personnel monitoring section located at Nuclear Fuel Complex, Hyderabad. She was responsible for personnel monitoring of DAE and non-DAE Institutions of combined state ANDHRA PRADESH.

In 2010 she was posted as Officer-in-Charge, Health Physics Laboratory at Nuclear Fuel Complex, Hyderabad. As Officer-in-Charge, Health Physics Unit, Nuclear Fuel Complex she was responsible for occupational, environmental and industrial hygiene surveillance in and around NFC. She was member in various committees in NFC. She was also coordinator for Emergency Response Centre located at HP Building, NFC, Hyderabad.

In 2016 she was posted as Officer in Charge, Environmental survey laboratory, BARC Facilities, Visakhapatnam. She is conducting Environmental Impact assessment in and around 30 kms radius of BARC, Visakhapatnam.

She has 30 yrs of wide experience in various fields of **HEALTH SAFETY AND ENVIRONMENT GROUP, BARC.**

She has various national and international technical papers during her service in Health Safety Environment Group, BARC.

## **Dr. Rishi Verma**



**Dr. Rishi Verma** graduated B.E. in Electrical Engineering from Barkatullah University, Bhopal (M.P.), India and Ph.D. degree in Physics from Nanyang Technological University, Singapore. He is presently serving as Scientific Officer (G) & Head, Energetic Systems Development Section at Pulsed Power & Electromagnetics Division, BARC Facilities, Visakhapatnam. He is also a designated Associate Professor and recognized Ph.D. guide at Homi Bhabha National Institute (Engineering Sciences), Mumbai. Throughout carrier, he has been actively involved in the design and development of various types of customized pulsed power systems and radiation generators for nuclear and electromagnetics applications. He has authored several research papers in peer reviewed journals and conference proceedings of international repute having >700 citations. He is also recipient of DAE Excellence Award in the year 2012 and 2011 and Deans Commendation for Research in the year 2010, 2009 and 2008 at NIE, NTU, Singapore. His research interests include pulsed power and electromagnetics, dense plasmas, accelerators and neutron generators.

## RESUME

### Dr. Kallu Rajender Reddy

#### PERSONAL DATA

**Mailing Address** Inorganic & Physical Chemistry Division  
CSIR-Indian Institute of Chemical Technology  
Uppal Road, Tarnaka, Hyderabad 6500 007  
Telangana State, India

**E-mail** [rajender@iict.res.in](mailto:rajender@iict.res.in)  
[rajenderkallu@gmail.com](mailto:rajenderkallu@gmail.com)

**Phone** **9848290611**

**Fax (Office)** 91-040-27160921



#### Academic Qualifications

1986-1988 *M.Sc.(Chemistry)*, University of Hyderabad, Hyderabad 500046,  
1988-1994 *Ph.D. (Inorg.Chem)*, University of Hyderabad, Hyderabad 500046

#### Positions held

April 1994 - October 1996 Research Associate, University of Hyderabad,  
Hyderabad 500046

October 1996- October 1997 Post-doctoral Fellow, Department of Chemistry and  
Radioisotops, Nuclear Technology Institute, Portugal

November 1997- July 2001 Post-doctoral Fellow, Department of Chemistry, National  
Taiwan University, Taipei, Taiwan

September 2001-September 2004 Scientist B, IICT, Hyderabad

September 2004-September 2008 Scientist C, IICT, Hyderabad

September 2008- September 2012 Senior Scientist, IICT, Hyderabad

September 2012- September 2016 Principle Scientist, IICT, Hyderabad

September 2016- till today Senior Principle Scientist, IICT, Hyderabad

#### Awards:

- Raman Research Fellow for the year 2011-2012 and visiting fellow at Institute of Chemistry, Karl-Franzens University Graz, Austria
- Fellow of Telangana Academy of Sciences-2015

#### Membership:

- Life member of Catalysis Society of India
- Member of American Chemical Society

#### Research Interests

- Homogeneous Catalysis
- Application of Transition metal and metal free catalysts
- Oxidative cross couplings
- C-H bond activations
- Synthesis of heterocyclic compounds

**Ph.D :** 10 (Completed, Directly); 7 (Completed, Co-supervisor); 3 (presently working)

**Post-Doc:** 2 (Completed)

**Dissertations:** 3 (M.Pharm); 17 (M.Sc)

**Publications :** 71

**Process Demonstrated:** 2

## List of Publications

1. Hydroxymethylation of Quinolines via Iron Promoted Oxidative C-H Functionalization: Synthesis of Arsindoline-A and its Derivatives  
Shantharjun B, Vani Damera, Ramanjaneyulu Unnava, Sandeep Mummadi and **Kallu Rajender Reddy**  
*Org. Biomol. Chem.*, 2021, 19, 645
2. Oxidative Copper Catalyzed Regioselective Trifluoromethylation of Fused Imidazo[1,5-a]N-heteroarenes using Langlois' (NaSO<sub>2</sub>CF<sub>3</sub>) Reagent as CF<sub>3</sub> Source  
Mummadi Sandeep, Bangarigalla Shantharjun, Geetala Pradeep Kumar and **Kallu Rajender Reddy**  
*Eur. J. Org. Chem.*, 2021, 246
3. Synthesis and Opto-electronic Properties of BODIPY o-Phos Systems  
Thipanni Anitha, Madoori Mrinalini, Damera Vani, Seelam Prasanthkumar, **Kallu Rajender Reddy**, Lingamallu Giribabu  
*Photochem. Photobiol* 2020, 96, 1182
4. LiI/TBHP Mediated Oxidative Cross Coupling of P(O)-H Compounds with Phenols and Various Nucleophiles: Direct access for the Synthesis of Organophosphates  
Thippani Anitha, Kashamalla Chinna Ashalu, Mummadi Sandeep, Aabid Mohd, Joanna Wencel-Delord, Francoise Colobert, and **Kallu Rajender Reddy**  
*Eur. J. Org. Chem.*, 2019, 7463
5. Metal free, one-pot oxidative triple functionalization of azaarenes with methyl arenes mediated by molecular iodine/TBHP: Synthesis of 1-benzyl-3-iodoquinolinones and 2-benzyl-4-iodoisoquinolin-1(2H)-ones  
Bangarigalla Shantharjun, Radhakrishnan Rajeswari, Damera Vani, Ramanjaneyulu Unnava, Balasubramanian Sridhar and **Kallu Rajender Reddy**  
*Asian. J. Org. Chem* 2019, 8, 2162.
6. One-Pot Synthesis of 3-Sulphenyl/Selenylimidazo[1,5-a]quinolines from 2-methylquinolines, Aliphatic amines/ Amino acids and Dichalcogenides  
Mummadi Sandeep, MD. Muzaffar-ur-Rehman, Geetala Pradeep Kumar, Balasubramanian Sridhar and **Kallu Rajender Reddy**  
*Eur. J. Org. Chem.*, 2019, 6122.
7. P-stereogenic phosphonates via dynamic kinetic resolution: a route towards enantiopure tertiary phosphine oxides  
Aabid Mohd, Thippani Anitha, **Kallu Rajender Reddy**, Joanna Wencel-Delord, and Francoise Colobert  
*Eur. J. Org. Chem.*, 2019, 7836
8. Iron Catalyzed Minisci Type Acetylation of N-Heteroarenes Mediated by CH(OEt)<sub>3</sub>/TBHP  
A. Srinivasulu, B. Shantharjun, D. Vani, K. Chinna Ashalu, A. Mohd, J. Wencel-Delord, F. Colobert and **K. Rajender Reddy**  
*Eur. J. Org. Chem.*, 2019, 1815
9. Copper Catalyzed C-H Activation  
M. Lakshmi Kantam, Chandrakanth Gadipelly, Gunjan Deshmukh, **K. Rajender Reddy** and Suresh Bhargava  
*Chem. Rec.* 2019, 19(7), 1302
10. Direct Access to Halogenated Fused Imidazo[1,5-a]N-heteroaromatics through Copper-Promoted Double Oxidative C<sub>6</sub>H Amination and Halogenation  
Mummadi Sandeep, Patil Swati Dushyant, Boda Sravani and **Kallu Rajender Reddy**  
*Eur. J. Org. Chem.*, 2018, 3036
11. TBAI/TBHP mediated oxidative cross coupling of ketones with phenols and carboxylic acids: Direct access to benzofurans  
P. Santhosh Kumar, B. Ravikumar, K. Chinna Ashalu, **K. Rajender Reddy**

- Tetrahedron Lett, 2018, 59, 33**
12. Iron-catalyzed Csp<sup>3</sup>-Csp<sup>3</sup> bond formation via dehydrative cross coupling reaction: Facile access to new hybrid dihydroquinazolines having quinoline, isoquinoline, quinoxaline and azoles  
A. Srinivasulu, B. Shantharjun, R. Arun Kumar and **K. Rajender Reddy**  
**Tetrahedron Lett, 2017, 58, 1501**
  13. TBAI/TBHP mediated oxidative cross coupling of aryl alkyl ketones with H-phosphonates and H-phosphine oxides in water: facile access to ketol phosphates and phosphinates.  
G. Saidulu, R. Arun Kumar, T. Anitha, P. Santhosh Kumar and **K. Rajender Reddy**  
**Tetrahedron Lett, 2016, 57, 1648**
  14. Iron-catalyzed C-C bond formation *via* cross dehydrative coupling reaction of heterocyclic aminols with electron rich arenes: facile access to C4-aryl-3,4-dihydroquinazolines  
R. Arun Kumar, A. Srinivasulu, G. Saidulu, P. Santhosh Kumar, B. Sridhar and **K. Rajender Reddy**  
**Tetrahedron 2016, 72, 5794**
  15. Recent Advances in Copper-Catalyzed Oxidative Cross-Coupling Chemistry  
C. Uma Maheswari, G. Sathish Kumar and **K. Rajender Reddy**  
**Curr. Org. Chem, 2016, 20, 512**
  16. Iron-catalyzed C-N bond formation via oxidative C<sub>sp3</sub>-H bond functionalization adjacent to nitrogen in amides and anilines: synthesis of N-alkyl and N-benzyl azoles  
G.Saidulu,R. Arun Kumar and **K. Rajender Reddy**  
**Tetrahedron Lett, 2015, 56, 4200**
  17. Synthesis of unsymmetrical phenylurea derivatives *via* oxidative cross coupling of aryl formamides with amines under metal free conditions  
N. Veera Reddy, P. Santhosh Kumar, P. Sudhir Reddy, M. Lakshmi Kantam and **K. Rajender Reddy**  
**New. J. Chem. 2015, 39, 805**
  18. C-N and C-P bond formation *via* cross dehydrative coupling reaction: an efficient synthesis of novel 3,4-dihydroquinazolines  
G. Saidulu, R. Arun Kumar, T. Anitha, A. Srinivasulu, B. Sridhar, Shih Tzung Liu, **K. Rajender Reddy**  
**RSC Advances 2014, 4, 55884**
  19. Synthesis of functionalized carbamates and quinones *via* sequential oxidation of salicylaldehydes using TBHP as the oxidant  
K. Rajendra Prasad, P. Suresh, B. Ravikumar, N. Veera Reddy and **K. Rajender Reddy**  
**Tetrahedron Lett, 2014, 55, 6307**
  20. Ligand-Assisted Copper-Catalyzed Oxidative Cross-Coupling of Simple Phenols with Formamides for the Synthesis of Carbamates  
N. Veera Reddy, Gadde Sathish Kumar, Pailla Santhosh Kumar, M. Lakshmi Kantam, **Kallu Rajender Reddy**  
**SYNLETT, 2014, 25, 2133**
  21. Copper(II)-Catalyzed Aromatization Followed by Bromination of Cyclohexenones Leading to Phenols And Bromophenols  
Hung-Chun Tong, **K. Rajender Reddy** and Shih-Tzung Liu  
**Eur. J. Org. Chem, 2014, 3256-3261**
  22. Metal free oxidative coupling of aryl formamides with alcohols for the synthesis of carbamates  
N. Veera Reddy, K. Rajendra Prasad, P. Sudhir Reddy, M. Lakshmi Kantam and **K. Rajender Reddy**  
**Org. Biomol. Chem. 2014, 12, 2172**
  23. An Unexpected Semi-Hydrogenation of Ligand in Complexation of 2,7-Bispyridinyl-1,8-naphthyridine With Ru<sub>3</sub>(CO)<sub>12</sub>

Bei-Sih Liao, Yi-Hung Liu, Shie-Ming Peng, **K. Rajender Reddy**, Shin-Hung Liun, Pi-Tai Chou, Shiuh-Tzung Liu

**Dalton Transactions** 2014, 43, 3557

24. Copper Catalysed Activation of  $\alpha$ -Amino Peroxy and Hydroxy intermediates to Iminium ion Precursor: An Access to C4-Substituted-3,4-dihydroquinazolines via Oxidative Cross Coupling Strategy  
R. Arun Kumar, G. Saidulu, Balasubramanian Sridhar, Shiuh Tzung Liu, **K. Rajender Reddy**  
**J. Org. Chem.** 2013, 78, 10240-10250
25. Copper Catalyzed Oxidative Coupling of Amines with Formamides: A New Approach for the Synthesis of Unsymmetrical Urea Derivatives.  
G. Sathish Kumar, R. Arun Kumar, P. Santhosh Kumar, N. Veera Reddy, K. Vijaya Kumar, M. Lakshmi Kantam, S. Prabhakar and **K. Rajender Reddy**  
**Chem. Commun** 2013, 49, 6686-6688
26. Copper Catalyzed Oxidative Coupling of Carboxylic Acids with N,N-Dialkylformamides: A New Approach for the Synthesis of Amides  
P. Santhosh Kumar, G. Sathish Kumar, R. Arun Kumar, N. Veera Reddy and **K. Rajender Reddy**  
**Eur. J. Org. Chem.** 2013, 1218
27. Transition-Metal-Free  $\alpha$ -Csp<sup>3</sup>-H bond Functionalization of Amines by Oxidative Cross Dehydrogenative Coupling Reaction: Simple and Direct Access to C4-Alkylated-3,4-dihydroquinazoline Derivatives  
R. Arun Kumar, G. Saidulu, K. Rajendra Prasad, G. Sathish Kumar, B. Sridhar, and **K. Rajender Reddy**  
**Adv. Synth. Catal.**, 2012, 354, 2985
28. Copper-Catalyzed C-O Bond Formation by Direct  $\alpha$ -C-H Bond Activation of Ethers Using Stoichiometric Amounts of Peroxide in Batch and Continuous Flow Formats  
G. Sathish Kumar, Bartholomäus Pieber, **K. Rajender Reddy**, and C. Oliver Kappe  
**Chem. Eur. J.** 2012, 18, 6124.
29. Critical Assessment of the Efficiency of Chitosan Biohydrogel Beads as Recyclable and Heterogeneous Organocatalyst for C-C Bond Formation  
Dennis Kühbeck, G. Saidulu, **K. Rajender Reddy** and David Díaz Díaz  
**Green Chem.**, 2012, 14, 378
30. Copper-Catalyzed Oxidative C-O Coupling by Direct C-H Bond Activation of Formamides: Synthesis of Enol Carbamates and 2-Carbonyl-Substituted Phenol Carbamates  
G. Sathish Kumar, C. Uma Maheswari, R. Arun Kumar, M. Lakshmi Kantam, and **K. Rajender Reddy**  
**Angew. Chem. Int. Ed.** 2011, 50, 11748
31. Synthesis of 3H-Quinazolin-4-ones and 4H-3,1-Benzoxazin-4-ones via Benzylic Oxidation and Oxidative Dehydrogenation using Potassium Iodide-*tert*-Butyl Hydroperoxide  
R. Arun Kumar C. Uma Maheswari, Satheesh Ghantasala, C. Jyothi, **K. Rajender Reddy**  
**Adv. Synth. Catal.**, 2011, 353, 401
32. Pyrrolidine-Catalyzed Condensation of Ethyl Diazoacetate to Aldehydes in Water  
M. Lakshmi Kantam, L.Chakrapani, T. Ramani, **K. Rajender Reddy**  
**Synth. Commun**, 2010, 40, 1724
33. Mild and efficient oxyiodination of alkynes and phenols with potassium iodide and *tert*-butyl hydroperoxide  
**K. Rajender Reddy**, M. Venkateshwar, C. Uma Maheswari, and P. Santosh Kumar  
**Tetrahedron Lett**, 2010, 51, 2170
34. Highly efficient one pot synthesis of 2-substituted quinazolines and 4H-benzo[d][1,3]oxazines via cross dehydrogenative coupling using sodium hypochlorite



- C. Uma Maheswari, G. Sathish Kumar, M. Venkateshwar, R. Arun Kumar, M. Lakshmi Kantam and **K. Rajender Reddy**  
*Adv. Synth. Catal.*, 2010, 352, 341.
35. Catalytic Oxidative Esterification of Aldehydes and Alcohols Using KI-TBHP.  
**K. Rajender Reddy**, M. Venkateshwar, C. Uma Maheswari and S. Prashanthi.  
*Synth. Commun*, 2010, 40, 186
36. Catalytic oxidative conversion of alcohols, aldehydes and amines into nitriles using KI/I<sub>2</sub>-TBHP system  
**K. Rajender Reddy**, C. Uma Maheswari, M. Venkateshwar, S. Prashanthi and M. Lakshmi Kantam  
*Tetrahedron Lett*, 2009, 50, 2050
37. Selective Oxidation of Aromatic Amines to Nitro derivatives using Potassium Iodide - *tert*-butyl hydroperoxide Catalytic System  
**K. Rajender Reddy**, C. Uma Maheswari, M. Venkateshwar and M. Lakshmi Kantam  
*Adv. Synth. Catal.*, 2009, 351, 93
38. Oxidative Amidation of Aldehydes and Alcohols with Primary Amines Catalyzed by KI-TBHP  
**K. Rajender Reddy**, C. Uma Maheswari, M. Venkateshwar and M. Lakshmi Kantam  
*Eur. J. Org. Chem*, 2008, 3619
39. One pot sequential synthesis of  $\alpha$ -hydroxy- 1,4-disubstituted 1,2,3-triazoles from *in-situ* generated  $\alpha$ -azido alcohol by click chemistry  
**K. Rajendar Reddy**, C. Uma Maheswari, K. Rajgopal, M. Lakshmi kantam  
*Synth. Commun*, 2008, 38, 2158
40. Synthesis of chiral benzimidazole-pyrrolidine derivatives and their application in organocatalytic aldol and Michael addition reactions  
**K. Rajender Reddy**, G. Gopikrishna, Ch. V. Rajasekhar.  
*Synth. Commun*, 2007, 37, 4289
41. L-Proline catalyzed asymmetric direct aldol reaction of hetero-aromatic aldehydes and acetone: Improvement of catalytic efficiency in ionic liquid bmim [BF<sub>4</sub>]  
**K. Rajender Reddy**, L. Chakrapani, T. Ramani, Ch. V. Rajasekhar  
*Synth. Commun*, 2007, 37, 4301
42. Copper-alginates: A biopolymer supported Cu(II) catalyst for 1,3-dipolar cycloaddition of alkynes with azides and oxidative coupling of 2-naphthols and phenols in water  
**K. Rajender Reddy**, K. Rajgopal, M. Lakshmi Kantam  
*Catal. Letters*. 2007, 114, 36.
43. Zinc-proline complex: An efficient reusable catalyst for direct Nitroaldol reaction in aqueous media.  
**K. Rajender Reddy** Ch. V. Rajasekhar, G. Gopikrishna  
*Synth. Commun*, 2007, 37, 1971.
44. L-Proline Catalyzed Michael addition of Aldehydes and Unmodified Ketones to Nitro Olefins Accelerated by Et<sub>3</sub>N.  
B. M. Choudary, Ch. V. Rajasekhar, G. Gopikrishna, **K. Rajender Reddy**  
*Synth. Commun*, 2007, 37, 91.
45. Chitosan-hydrogel: A green and recyclable biopolymer catalyst for aldol and Knoevenagel reactions.  
**K. Rajender Reddy**, K. Rajgopal, C. Uma Maheswari, M. Lakshmi Kantam  
*New. J. Chem.* 2006, 30, 1549.
46. Cellulose Supported Copper(0) Catalyst for aza-Michael Addition  
**K. Rajender Reddy**, Nadakudity S. Kumar  
*Synlett*. 2006, (14), 2246.
47. Proline catalyzed two component, three component and self asymmetric Mannich reactions promoted by Ultrasonic conditions  
M. Lakshmi Kantam, Ch. V. Rajasekhar, G. Gopikrishna, **K. Rajender Reddy**, B. M. Choudary  
*Tetrahedron Lett* 2006, 47, 5965.

48. L-Proline-H<sub>2</sub>O<sub>2</sub>: A New Chemoselective Approach for Oxidation of Sulfides to Sulfoxides  
**K. Rajender Reddy, Ch.V. Rajasekhar, A. Ravindra**  
*Synth. Commun.*, 2006, 36, 3761.
49. N-Arylation of Nitrogen Heterocycles with Aryl Halides and Arylboronic acids Catalyzed by Cellulose Supported Copper(0)  
**K. Rajender Reddy, N. S. Kumar, B. Sreedhar, M. Lakshmi Kantam**  
*J. Mol. Catal. A (Chem)*. 2006, 252, 136.
50. Cellulose Supported Palladium (0) Catalyst for Heck and Sonogashira Coupling Reactions.  
**K. Rajender Reddy, N. S. Kumar, P. S. Reddy, B. Sreedhar, M. Lakshmi Kantam**  
*J. Mol. Catal. A (Chem)*. 2006, 252, 12.
51. Copper(II) promoted regioselective synthesis of 1,4 -disubstituted 1,2,3-triazoles in water.  
**K. Rajender Reddy, K. Rajgopal, M. Lakshmi Kantam**  
*Synlett*. 2006, (6), 957.
52. Palladium-imidazole derivatives as highly active catalysts for Heck reaction  
**K. Rajender Reddy, Gopi Krishna, G.**  
*Tetrahedron Lett* 2005, 46, 661.
53. Synthesis, Structure, and Magnetic Properties of [Mn<sup>III</sup>(salpn)NCS]<sub>n</sub>, a Helical Polymer, and the Dimer [Mn<sup>III</sup>(salpn)NCS]<sub>2</sub>. Weak Ferromagnetism in [Mn<sup>III</sup>(salpn)NCS]<sub>n</sub> Related to the Strong Magnetic Anisotropy in Jahn-Teller Mn(III) (salpnH<sub>2</sub> = N,N'-Bis(salicylidene)-1,3-diaminopropane)  
Sailaja, S.; **Reddy, K. R.**; Rajasekharan, M. V.; Hureau, C.; Riviere, E.; Cano, J.; Girerd, J.-J.;  
*Inorg. Chem.*; 2003; 42(1); 180.
54. Ligand effect on the cationic palladium complexes in polymerisation of vinyl ethers  
Chen, Y.-C.; **Reddy, K. R.**; Liu, S.-T.  
*J. Organometallic Chem.* 2002, 656, 199.
55. Ligand effect on palladium complex catalysed copolymerisation of ethylene/carbon monoxide  
**Reddy, K. R.**; Tsai, W.-W.; Surekha, K.; Lee, G.-H.; Peng, S.-M.; Chen, J.-T.; Liu, S.-T.  
*J. Chem. Soc., Dalton Trans.*, 2002, 1776.
56. Study of Insertion of Olefins and/or Carbon Monoxide into Phosphine-Imine Palladium Methyl Complexes  
**Reddy, K. R.**; Surekha, K.; Lee, G.-H.; Peng, S.-M.; Chen, J.-T.; Liu, S.-T.;  
*Organometallics*; 2001; 20(7); 1292.
57. Single and Multiple Insertion of Alkynes into Pd-Acyl and Pd-Aryl Bonds in Cationic Palladium Complexes with Phosphine-Imine (P~N) Ligands  
**Reddy, K. R.**; Surekha, K.; Lee, G.-H.; Peng, S.-M.; Liu, S.-T.;  
*Organometallics*; 2001; 20(26); 5557.
58. Cationic Phosphine-imine Rhodium(I) complexes and Their Activity on Catalysis of Phenylacetylene Polymerization.  
**K. Rajender Reddy, Chi-Feng Lin, Gene-Hsiang Lee, Shie-Ming Peng, Jwu-Ting Chen and Shiuh-Tzung Liu**  
*J. Chinese Chem Soc.*, 2001, 48, 997.
59. Palladium(II) Complexes with Phosphorus-Nitrogen Mixed Donors. Efficient Catalysts for the Heck Reaction  
**Reddy, K. R.**; Surekha, K.; Lee, G.-H.; Peng, S.-M.; Liu, S.-T.;  
*Organometallics*; 2000; 19(13); 2637.
60. New imine-phosphine palladium complexes catalyze copolymerization of CO-ethylene, CO-norbornylene and provide well-characterized stepwise insertion intermediates of various unsaturated substrates.  
**K. Rajender Reddy, C.-L. Chen, Y.-H. Liu, S.-M. Peng, J.-T. Chen and S.-T. Liu**

- Organometallics*, 1999, 18, 2574.
61. Carbene transfer reactions between Transition Metal ions.  
S. T. Liu and **K. Rajender Reddy**  
*Chem. Soc. Rev.*, 1999, 28, 315.
  62. Metal ion mediated transfer and cleavage of diaminecarbene ligands.  
R. -Z. Ku, J. -C. Huang, J. -Y. Cho, F. -M. Kiang, **K. Rajender Reddy**, Y. -C. Chen, K. -J. Lee, J.-H. Lee, G.-H. Lee, S. -M. Peng and S. -T. Liu.  
*Organometallics*, 1999, 18, 2145.
  63. Rhenium(V) dioxo complexes with dihydrobis(pyrazolyl)borates: Synthesis and reactivity towards electrophilic substrates.  
**K. Rajender Reddy**, A. Domingos, A. Paula and I. Santos  
*Inorg. Chem* 1999, 38, 4278.
  64. Polyiodides of transition metal tris-chelate cations: Synthesis, structures, spectral and electrical conductivity studies of  $[\text{Mn}(\text{phen})_3](\text{I}_3)_2$  and  $[\text{Mn}(\text{bpy})_3](\text{I}_3)_{1.5}(\text{I}_8)_{0.25}$   
D. Ramalakshmi, **K. Rajender Reddy**, D. Padmavathi, M. V. Rajasekharan, N. Arulsamy and D. J. Hodgson  
*Inorg. Chim. Acta*. 1999, 284, 158.
  65. Neutral *trans*-Dioxorhenium complexes with anionic tetrakis(pyrazolyl)borate ligand.  
A. Paulo, **K. Rajender Reddy**, A. Domingos and I. Santos  
*Inorg. Chem.*, 1998, 37, 6807.
  66. Synthesis, structure and magnetic properties of  $\text{Mn}(\text{salpn})\text{N}_3$ , a helical polymer and  $\text{Fe}(\text{salpn})\text{N}_3$ , a ferromagnetically coupled dimer (SalpnH = N,N'-bis(salicylidene)-1,3-diaminopropane)  
**K. Rajender Reddy**, M. V. Rajasekharan and J. P. Tuchagues  
*Inorg. Chem.*, 1998, 37, 5978.
  67. Synthesis and structural characterisation of an unsymmetrical ( $\mu$ -oxo)-di( $\mu$ -acetato) Manganese (III, III) complex  $[\text{Mn}_2\text{O}(\text{OAc})_2(\text{H}_2\text{O})(\text{NO}_3)(\text{bpy})_2]\text{ClO}_4 \cdot \text{HOAc}$ .  
**K. Rajender Reddy**, M.V. Rajasekharan and Sunanda Sukumar  
*Polyhedron.*, 1996, 15, 4161.
  68. Synthesis and Structural investigation of  $[\text{Mn}_3\text{O}_4(\text{H}_2\text{O})_2(\text{phen})_4](\text{NO}_3)_4 \cdot 2.5\text{H}_2\text{O}$ . A Water bound complex obtained by Ce(IV) oxidation.  
**K. Rajender Reddy**, M. V. Rajasekharan, N. Arulsamy and D. J. Hodgson  
*Inorg. Chem.*, 1996, 35, 2283.
  69. Modelling the Photosynthetic Water Oxidation Center: Synthesis, Structure, and Magnetic Properties of  $[\text{Mn}_2(\mu\text{-O})_2(\mu\text{-OAc})(\text{H}_2\text{O})_2(\text{bipy})_2](\text{ClO}_4)_3 \cdot \text{H}_2\text{O}$   
**K. R. Reddy**, M.V. Rajasekharan, S. Padhey, F. Dahan and J.-P. Tuchagues  
*Inorg. Chem.*, 1994, 33, 428.
  70. A mononuclear bis-chelate complex of Manganese(III) with 1,10-phenanthroline. Crystal and molecular structure of  $[\text{Mn}(\text{phen})_2\text{Cl}_2]\text{NO}_3 \cdot 2.5\text{CH}_3\text{COOH}$ .  
**K. Rajender Reddy** and M.V. Rajasekharan  
*Polyhedron.*, 1994, 13, 765.
  71. Mononuclear Mn(III) aquo complexes. Crystal and molecular structures of  $\text{Mn}(\text{phen})(\text{H}_2\text{O})\text{Cl}_3$  and  $[\text{Mn}(\text{acac})_2(\text{H}_2\text{O})_2]\text{ClO}_4 \cdot 2\text{H}_2\text{O}$  (acacH = acetylacetone, phen = 1,10-phenanthroline).  
G. Swarnabala, **K. Rajender Reddy**, T. Jyotsna and M.V. Rajasekharan  
*Transition. Met. Chem.*, 1994, 19, 506.

# CONSOLIDATED REPORT

*On*

## TWO - DAY NATIONAL SEMINAR

*On*

# NUCLEAR SCIENCE IN HEALTH AND ENVIRONMENT

(NSHE-2022)

*In association with*

**Bhabha Atomic Research Centre (BARC), Mumbai**

*Dates: 16-17, March, 2022*

**Organized by the Departments of Physics and Chemistry, ASD.**

**Govt. Degree College for Women (A) Kakinada**

### **President**

(Dr. V. Anantha Lakshmi)  
Principal

### **Vice-President**

(Ms. M. Suvarchala)  
Vice - Principal

### **Organizing Secretary**

(Mr. V. Mallikarjuna Sarma)  
**Lecturer - in - Charge**  
Department of Chemistry

### **Convenor**

(Mr. K. Venkateswara Rao)  
**Lecturer - in - Charge**  
Department of Physics

- The conduct of Two-Day National Seminar is aimed to gain insight and knowledge on Nuclear Science and its impact on Health and Environment that would remain effective in the life of the young audience. The eminent resource persons from Bhabha Atomic Research Centre (BARC) and CSIR- Indian Institute of Chemical Technology, Hyderabad are invited to ignite and enrich the knowledge of young minds.
- The dynamic idea of organizing a National level Seminar is conceived by Mr. V.Mallikarjuna Sharma, Head, Department of Chemistry, A. S. D. Govt. Degree College for Women (A) and under his able leadership, submitted a proposal to BARC, Mumbai for the conduct of this seminar in collaboration with BARC.
- With immediate response to the proposal, the officials of BARC, under the Out Reach Programme and “Azadi Ka Amrut Mahotsav” to commemorate the 75 glorious years of progressive India and its rich history, readily accepted to collaborate with A. S. D. Govt. Degree College for Women (A) and initiated their formalities. Finally, as the dates 16-17 of March are convenient to all delegates, The National Seminar is organized and the proceedings are as follows.

## **DAY – 1**

### **INAUGURAL SESSION**

**10.00 AM - 12.00 Noon**

On the first day, i.e. on 16-03-2022, the Two Day National Seminar started with the Inaugural session and all the distinguished guests, the president of the event, Dr. V. Anantha Lakshmi, principal, A.S.D. Govt. Degree College for Women (A), vice president Ms. M. Suvarchala, vice-principal of the college, the chief guest of the session, Mr. Aadesh Kumar, Executive Manager, Oil and Natural Gas Corporation (ONGC), India, key note speaker Prof. B. Jagan Mohan Reddy, Head, Dept. of Chemistry, Adikavi Nannaya University, Rajahmundry, D. Malik, General Manager, ONGC are invited to the dais along with the other resource persons. The inaugural session started with the prayer song by the final year students of ASD Govt. Degree college for Women (A), Kakinada, followed by the presentation of saplings to the distinguished guests on the dais by the faculty of ASD Govt. Degree College for Women (A), Kakinada.



**Inaugural session: Lighting of the lamp by the dignitaries**

The president of the function, Dr. V. Anantha Lakshmi, Principal of this college, gave her opening remarks and congratulated the departments of Chemistry and Physics for their efforts in organizing Two-day National Level Seminar on **“NUCLEAR SCIENCE ON HEALTH AND ENVIRONMENT – (NSHE-2022)”**

With high commendations, Dr. V. Anantha Lakshmi, Principal, ASD Govt. Degree College for Women (A), Kakinada, acknowledged the financial assistance given by Oil and Natural Gas Corporation (ONGC), Kakinada.



### **Opening Remarks by the Principal, Dr. V. Anantha Lakshmi**

The Vice-President of the Seminar, Ms. M. Suvarchala, Vice-Principal of the college, demonstrated the need to recognize nuclear sources as a potential alternate energy resource and clearly elucidated the nuclear energy as the safest energy source when compared to coal, petroleum, natural gas and hydropower in the production of electricity.

The Chief guest for the Inaugural session Mr. Aadesh Kumar, addressed the gathering and gave his insights on Nuclear Science and its applications in Oil and Natural Gas Corporation. He specified the use of radioactive isotopes in establishing the well services across India. He demonstrated clearly the use their applicability of accurate pinpointing the exact location of Oil and Natural Gas Corporation resources.



**Addressing the audience by the Chief Guest Sri Aadesh Kumar, ED, ONGC, Kakinada**  
Prof. B. Jagan Mohan Reddy, Head, Dept. of Chemistry, Adikavi Nannaya University, Rajahmundry, the key note speaker of the Seminar, sensitized the students on various aspects Nuclear Science. He explained well the dynamics of Nuclear Fission and Nuclear Fusion, and their diverse applications in nature, the use of radioactive isotopes in our daily life were demonstrated.



**Key note address by Dr. B. Jaganmohan Reddy, Associate Professor, ANUR, Rajahmundry**



Prof. Shastri, retired professor in Physics, Andhra University, Visakhapatnam, laid much emphasis on the basics of Nuclear Science. He delivered valuable information on the evolution of Nuclear Science. He explained in what way the nuclear physics was evolved as a separate branch with the discovery of radioactivity by Henry Becquerel in the year 1896, and how the nuclear science of atomic radiation, atomic change and nuclear fission was developed from 1895- 1945.

### **Technical Session – I**

**Resource Person:** Dr. S. K. Sharma, *Scientist – G, BARC, Visakhapatnam*

**Topic:** “*Career Opportunities in DAE*”.

**Time:** 12.15 PM – 1.30 PM

The technical session of day one commenced with Dr. S. K. Sharma, Scientist G, BARC, Visakhapatnam, who delivered a talk on “*Opportunities in DAE*”. He elucidated the structure of Atomic Energy Commission from head institute to the aided institutions and made us aware of the mandate of Dept. of Atomic Energy. He also brought into light “KAMINI” the only nuclear reactor operating with Thorium fuel, various radioactive sources, that include, X-rays, cosmic rays, nuclear power, foods and drinks, solar radiation etc. The challenges in Physics, Chemistry and Life sciences and how nuclear science can help in solving them are focused. He also briefly outlined the two-stage selection process, for both engineering and science disciplines for recruitment in BARC.



**Speech on “*Career Opportunities in DAE*” by Dr. S. K. Sharma, Scientist – G, BARC**

## Technical Session – II

**Resource Person:** Dr. M. V. Suryanarayana, Scientist – H, BARC, Visakhapatnam

**Topic:** “Nuclear Power Program of DAE”.

**Time:** 12.15 PM – 1.30 PM

The second technical session was on “Nuclear Power Program of DAE” by Dr. M. V. Suryanarayana, Scientist H, BARC, Visakhapatnam. He elaborated the generation of nuclear energy from the nuclear reactors by using radioactive elements. He said many interesting facts about the establishment and applications of first nuclear reactor – Apsara, a swimming pool type thermal reactor, basic design of nuclear power reactor, construction of India’s largest nuclear research application of nuclear reactors, explained well the three-stage nuclear power program of India-designed by Homi J Bhabha and also discussed the advantages and disadvantages of pressurized heavy reactors.



**Speech on “Nuclear Power Program of DAE” by Dr. M. V. Suryanarayana, Scientist – H, BARC**

## Technical Session - III: (Dr. Padma Savitri)

On day 1, the third technical session was on “Radiation on Environment” by Dr. Padma Savitri, Scientist-G, BARC, Visakhapatnam. She gave a detailed account on the amount of radiation a human body is permitted to be exposed and also elucidated the radioactive materials present in nature, for example, sand, water, air and rocks, etc. The amount of radiation present in various cities in India and around the world, was shown by eye-catching slides. She also assured that there will be negligible harm to the human body upon the exposure to nuclear radiation.



**Speech on “Nuclear Power Program of DAE” by Dr. M. V. Suryanarayana, Scientist – H, BARC**



**Participation by the students and faculty on Day - 1**

## DAY – 2

### Technical Session – IV

**Resource Person:** *Dr. Padma Savitri, Scientist-G, BARC, Visakhapatnam*

**Topic:** *“Radiation on Environment”*.

**Time:** 10.00 AM – 11.30 PM

On day 2, the third technical session was on *“Radiation on Environment”* by Dr. Padma Savitri, Scientist-G, BARC, Visakhapatnam. She gave a detailed account on the amount of radiation a human body is permitted to be exposed and also elucidated the radioactive materials present in nature, for example, sand, water, air and rocks, etc. The amount of radiation present in various cities in India and around the world, was shown by eye-catching slides. She also assured that there will be negligible harm to the human body upon the exposure to nuclear radiation.



**Speech on “Radiation on Environment” by Dr. Padma Savitri**

### Technical Session – V

**Resource Person:** *Dr. K. Rajender Reddy, Senior Principal Scientist, IICT, Hyderabad.*

**Topic:** *“Small molecular activations and their applications in heterocyclic chemistry”*.

**Time:** 11.45 AM – 1.15 PM

The fourth technical session on *“Small molecular activations and their applications in heterocyclic chemistry”* was delivered by a prominent researcher from Dr. K. Rajender Reddy, Senior Principal Scientist, CSIR-IICT. He explained how the nuclear radiation is responsible for the origin of Universe and life, from the big-bang theory to the Inorganic world. The reaction of elements, which again consists of nucleus results in the synthesis of various drug

moieties. In a very effective way, he drew the attention of the crowd towards the synthesis of organic moieties of today's interest.



**Speech on “Small molecular activations and their applications in heterocyclic chemistry.” by Dr. Rajender Reddy**

#### **Technical Session – VI**

**Resource Person: Dr. Rishi Verma, Scientist-G, BARC, Visakhapatnam.**

**Topic: “Neutrons and their Applications”.**

**Time: 2.00 PM – 3.15 PM**

The sixth technical session was on “Neutrons and Applications” by Dr. Rishi Verma, Scientist-G, BARC-Vizag. He educated the students on the major sources of neutron and their classification. The basic differences of power of penetration and energies of alpha, beta and gamma radiations are explained. The advantages of neutrons generated by fusion reaction are more efficient and eco-friendlier than reactor-based sources.



**Speech on “Neutrons and their Applications” by Dr. Rishi Verma, Scientist-G, BARC**

### Technical Session – VII

**Resource Person:** Dr. M. V. Suryanarayana, Scientist – H, BARC, Visakhapatnam

**Topic:** “Radioisotopes on Human Health”.

**Time:** 3.30 PM – 4.30 PM

The sixth and last technical session was on “Radioisotopes on Human Health” by Dr. MV. Suryanarayana, Scientist-G, BARC, Visakhapatnam. He focused on the basics of radioactive isotopes, general methods of radioactive decay, applications of positron on human health, application of PET scan imaging for the detection of cancerous cells present in the human body.



**Speech on “Radioisotopes on Human Health” by Dr. M. V. Suryanarayana, Scientist-H, BARC**



**Participation by the students and faculty on Day - 2**

## Valedictory Session

- **Opening Remarks:** The valedictory session, commenced after the completion of all technical sessions. Dr. V. Anantha Lakshmi, Principal, A.S.D. Govt. Degree College for Women (A), gave her opening remarks. She exalted the departments of Chemistry and Physics for the wonderful organization of Two-Day National seminar and encouraged the students to participate in a greater number of workshops or seminars to empower themselves and gain in-depth knowledge.
- **Seminar Report:** Mr. V. Mallikarjuna Sharma, Head, dept. of Chemistry, briefed the report of the Two-Day National Seminar to the audience.
- **Chief Guest Address:** Dr. C. Krishna, Regional Joint Director (zone I &II), A. P. Collegiate Education, Rajamahendravaram was invited as the chief guest and he gave his appreciation in tons. He congratulated the Principal, Staff, Students and Departments of Chemistry and Physics of A.S.D. Govt. Degree College for Women (A) for the successful conduct of Two-Day National level Seminar.
- **From Resource Persons:** The eminent speakers of this National Seminar are overwhelmed with joy for the active response of the students and all of them shared their views and encouraged students to go for higher studies and directed them to pursue research.
- **Feedback of Participants:** Faculties from various colleges, gave their feedback and welcomed the idea of collaborating with BARC in conduct of this National Seminar. Students who are doing their post-graduation were highly benefited as they fit themselves perfectly in to the current scenario. Many students clarified their doubts in regard to molding their career in Nuclear Science.
- **Certificates Distribution:** The distribution of certificates took place and first the faculty from other colleges received their certificates from the chief guest, followed by the faculty of A.S.D. Govt. Degree college for Women (A) and the students from the resource persons.
- **Vote of Thanks:** Dr. S. Priyadarshini, lecturer in Chemistry proposed vote of thanks for the session and finally the program was concluded with the National Anthem.



**Valedictory Session: Opening remarks by the Principal Dr. V. Ananta Lakshmi**



**Motivational Talk of the invited speakers BARC**





**Speech by the Chief Guest Dr. C. Krishna, RJD of Collegiate Education**



**Seminar Report by the organizing secretary V. Mallikarjuna Sarma**



Feedback by the students



Cash Prize distribution to the winners of Quiz competition



**Organizing team with the Resource persons**

## అణు విజ్ఞాన రంగంపై ప్రత్యేక శ్రద్ధ అవసరం

సాంబమూర్తి నగర్, న్యూసీటుడే: విద్యార్థులు అణు విజ్ఞాన రంగంలోని అవకాశాలను అందిపుచ్చుకోవాలని ఓఎన్జీసీ జనరల్ మేనేజర్ డి.మాలిక్ సూచించారు. అన్నవరం సత్యవతిదేవి ప్రభుత్వ మహిళా డిగ్రీ కళాశాలలో పిజిఫ్స్, కెమిస్ట్రీ విభాగాలు, బాలా అటానమిక్ రీసెర్చ్ సెంటర్, ఓఎన్జీసీ సంయుక్త ఆధ్వర్యంలో బుధవారం సదస్సు జరిగింది. 'న్యూక్లియర్ ఫైన్స్ ఇన్ హెల్త్ అండ్ ఎన్విరాన్మెంట్' పై రెండ్రోజులుపాటు జరిగే జాతీయ సదస్సును బుధవారం ఆయన ప్రారంభించారు. ప్రెస్నిపల్ వి.ఆనంతలక్ష్మి ఆధ్వర్యంలో జరిగిన కార్యక్రమంలో ఆదికవి నన్నయ్య విశ్వవిద్యాలయం రసాయన శాస్త్ర విభాగాధిపతి ప్రొఫెసర్ డి.జగన్మోహన్రెడ్డి, ఏయూ విశ్రాంత ఆచార్యులు డాక్టర్ డీఎల్ శాస్త్రి, ఓఎన్జీసీ ఈడీ ఆదేశకుమార్ తదిరులు విద్యార్థులకు ఈ రంగం ప్రాధాన్యం గురించి వివరిస్తూ, అందుబాటులో ఉన్న ఉపాధి అవకాశ గురించి వివరించారు. శాస్త్రవేత్త డాక్టర్ ఎస్కే శర్మ, తిరుపాణ్యం, సువర్చల తదతరులు పాల్గొన్నారు.



జ్యోతి వెలిగిస్తున్న ముఖ్యఅతిథులు

# SMALL MOLECULAR ACTIVATIONS AND THEIR APPLICATIONS IN HETEROCYCLIC CHEMISTRY

**"Small molecular activations and their applications in heterocyclic chemistry"**

**Two Day National Conference (16 - 17, March 2022)**

**"Nuclear Science in Health and Environment (NSHE-2022) "**

**A.S.D. Government Degree College for Women (Autonomous)**  
**Kakinada-533002,**  
**East Godavari District(A.P)**

**Dr. K. Rajender Reddy**  
**Prof & Senior Principal Scientist**  
**Catalysis & Fine Chemicals Division**  
**CSIR-Indian Institute of Chemical Technology**  
**Hyderabad 500 007**  
[rajender.ict@gov.in](mailto:rajender.ict@gov.in) or [rajenderkallu@gmail.com](mailto:rajenderkallu@gmail.com)

NSHE 17-03-2022 1

**Is Nuclear Science Mother of all Sciences?**

**Origins of universe & Life**

Big Bang (hot and dense) → cooling → quarks & electrons (building blocks of matter) → protons & neutrons → nuclei → 380,000 years → electrons trapped → atoms (helium & hydrogen most abundant) → elements (Inorganic world)

NSHE 17-03-2022 3

**Elements to small molecules & drive towards origin of life**

Abiogenic synthetic reactions on the early Earth → Prebiotic soup → Prebiotic polymers → RNA world → Protein/DNA world (modern biochemistry)

Non-Life → (Chemical phase) → Simple Life → (Biological phase, Darwinian theory) → Complex Life

Organics from space → Creativity Innovation driven by natural forces

No human intervention

NSHE 17-03-2022 4

**The origin of life?**

First cells may have originated by chemical evolution involving 4 steps:

- Abiotic (Non-biological) synthesis of small organic molecules (monomers) → C + H = organic molecule
- Monomers joined together to form polymers (proteins, nucleic acids)
- Origin of self-replicating molecules (inheritance of traits) → proteins and polynucleic acids
- Packaging of these organic molecules into protobionts. → Aggregates of abiotically produced molecules that maintain an internal chemical environment and exhibit some of the properties associated with life (i.e. metabolism, excitability).

NSHE 17-03-2022 5

**Miller and Urey in 1953**

**Tested the Oparin-Haldane hypothesis by creating conditions**

- ✓ Atmosphere above warmed sea water that contained H<sub>2</sub>O, H<sub>2</sub>, CH<sub>4</sub>, and NH<sub>3</sub> and
- ✓ Electrodes that simulated lightning.
- ✓ From this setup, they obtained organic compounds such as amino acids that were collected in cooled water.

Copyright © Pearson Education, Inc., publishing as Benjamin Cummings.

NSHE 17-03-2022 7

**Present research....**

**Transition metal**

**Metal free**

• iodine/iodide

	Cost per Kg US\$
Fe	0.056
Cu	4
Co	21
Ir	18,500
Pd	19,700
Rh	24,000
Au	30,000
Pt	36,000

• cost →

• metal impurities

• recovery of metal

NSHE 17-03-2022 8

**Chemistry vs Health & Environment**

**Bhopal Gas Tragedy** *Amongst the worst Industrial Disasters of its time.*

Occurrence: 3<sup>rd</sup> December 1984.  
Place of occurrence: Bhopal, Madhya Pradesh, India.  
Company: Union Carbide Corporation.  
Chemical: Methyl Isocyanate (27 tons)

**Carbaryl (1-naphthyl methylcarbamate)**

Among the 500,000 people exposed to the gas, 20,000 have died till date and 120,000 continue to suffer devastating health effects as a result of their exposure

NSHE 17-03-2022 16

**Commercial carbamate compounds**

**Polyurethanes**

**Medicine**

Neostigmine      Rivastigmine      Physostigmine

**Carbamate pesticides**

Acaricides  
Fungicides  
Herbicides  
Insecticides  
Nematicides

Carbaryl      Bendocarb      Dimetan      Propoxur      Methomyl

NSHE 17-03-2022 17

**Aryl formamide....**

**Alkyl-formamides: self solvents**

**Copper catalysts: low yields**  
**Hypervalent iodide: yes**

Forman rearrangement      Curtius rearrangement

Feruton      Mesuton      Neuron

Heproturon      Siluron      Diuron

NSHE 17-03-2022 23

**Copper catalyzed synthesis of 3-alkyl-2H-benzo[e][1,3]oxazine-2,4(3H)-dione derivatives**

Rivastigmine      Carbofuran      Etenolcarb      Carbaryl

NDMC503

Bone resorption

Serotonin 5HT<sub>1A/5-HT<sub>7</sub></sub> Receptor Ligands

Osteoblast and osteoclast inhibitors

**3-substituted-2H-benzo[e][1,3]oxazine-2,4(3H)-dione derivatives**

NSHE 17-03-2022 27

**Hydroxy methylation**

➤ Methanol is used as a C1 source for various organic transformations

**Methylation** —  $\text{CH}_3$

**Methoxylation** —  $\text{OCH}_3$

**Formylation** —  $\text{CHO}$

**Hydroxymethylation** —  $\text{CH}_2\text{OH}$

NSHE 17-03-2022 41

**Synthesis of Substituted Pyrano[3,4-b]Quinolines via Silver Catalyzed Regioselective Intramolecular Cyclization of 3-Alkynylquinoline Aldehydes**

Single Crystal data for 8p(ORTEP)

Plausible Mechanism

Asian J. Org. Chem <https://doi.org/10.1002/ajoc.202100740>

NSHE 17-03-2022 43

## NUCLEAR POWER PROGRAMME OF DEPARTMENT OF ATOMIC ENERGY

**"There is no power as costly as no power"**

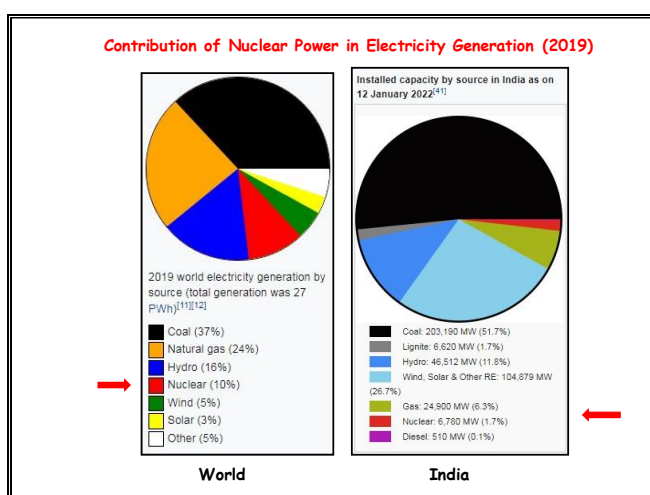
-Dr. Homi J. Bhabha  
Architect of Indian Nuclear Programme  
(30<sup>th</sup> October 1909- 24 January 1966)

Energy is a key component in the development of a country

**Humanity's Top Ten Challenges Next 50 Years**  
Richard Smalley, 2003 (1996 Noble Laureate in Chemistry)

1. Energy
2. Water
3. Food
4. Environment
5. Poverty
6. Terrorism & War
7. Disease
8. Education
9. Democracy
10. Population

Department of Atomic Energy is contributing extensively in top 8 areas



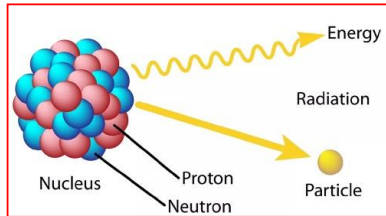
**Indian Nuclear Energy Program**  
In House High Technology + Self Reliance

1. Poor country of a billion people
2. Extremely meagre resources
3. Technological isolation from the developed world
4. Daring to Dream to be self reliant in energy and strategically strong

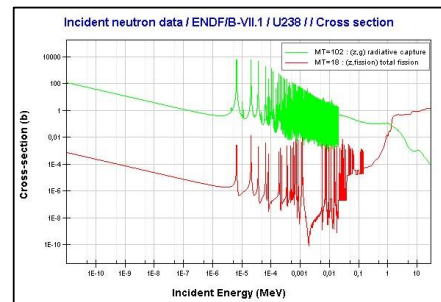
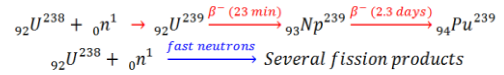
Today, Indian Nuclear Programme has role to play in various aspects of Nation Building i.e. electricity, food, water, health care, cutting edge science & technology and national security

## Radioactivity

- ✓ Discovered in 1896 by Henri Becquerel and Marie Curie, while working with phosphorescent materials
- ✓ The materials glow in dark after exposure certain materials
- ✓ Initially it was thought to be due to X-rays
- ✓ The uranium salts caused the glow



## Uranium-238 nuclear reaction



Capture cross-section is high for thermal neutrons

## India's first reactor

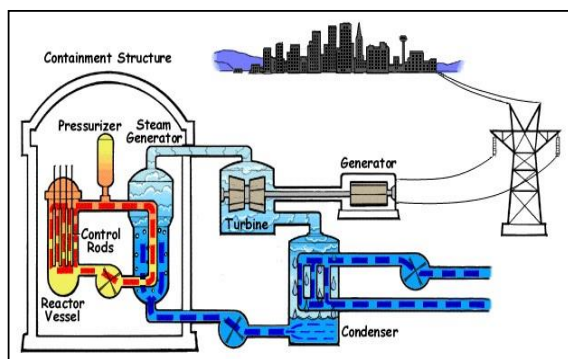


**Apsara reactor** - Asia's first nuclear reactor. 1 MW, pool type, light water moderated, highly enriched (93%) uranium fuel supplied by France

## Apsara Reactor (Old)



## Basic design of nuclear power reactor



## Research Reactors of BARC



### DHRUVA Reactor

India's largest nuclear **research** reactor  
Completely designed and executed by India  
It was the first nuclear reactor in Asia.  
Went critical on 8 August 1985 attained full power in 1988.  
100 MW Reactor  
Natural Uranium fuel

### CIRUS (Canada India Reactor Utility Services) supplied by Canada in 1954.

It was the **second** nuclear reactor built in India  
40MW Power  
Natural Uranium fuel  
Heavy water moderator and primary coolant  
Light water is secondary coolant  
It first went critical July 10, 1960  
The reactor was shut down on 31<sup>st</sup> December 2010

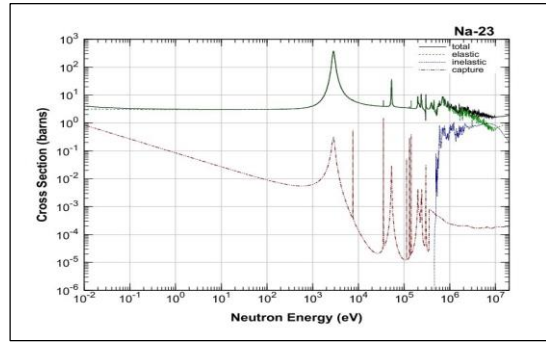


### Fast breeder reactor



The Fast Breeder Test Reactor (FBTR) is a breeder reactor located at Kalpakkam. It first reached criticality in October 1985. India 7<sup>th</sup> nation to have this technology. Using the experience gained from the operation of the FBTR, a 500 MWe Prototype Fast Breeder Reactor (PFBR) is in advanced stage of construction at Kalpakkam.

### Neutron capture properties of Sodium



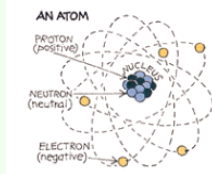
Sodium has very low capture cross-section for fast neutrons

Excellent coolant material

## RADIATION IN THE ENVIRONMENT

### An ATOM contains

1. Protons - +ve particles
2. Neutrons - Neutral particle
3. Electrons - -ve particles



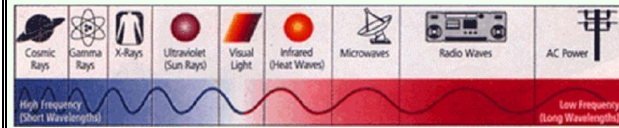
Also many other sub-particles.

### NUCLEAR STABILITY

- When the no. of protons and neutrons are same ( $n/p = 1$ ), the nuclei are most stable.
- When the no. of protons and neutrons differ, leads to **unstable** of the nuclei.
- ✓ The unstable nuclei relaxes by the process of energy release. This spontaneous release of energy from the unstable nuclei is called **radiation**.
- The phenomenon of spontaneous release of radiation is called **radioactivity**.

20-Apr-22

## Radiation - known and the unknown



**high energy ionizing radiation**

- Alpha particles
- Beta particles
- X-rays
- Gamma rays
- Neutrons

**low energy non-ionizing**

- Radio waves
- Micro waves
- Light
- Heat

April 20, 2022

## Radiation

**Radiation** is a form of energy, like heat or light, emitted through space and matter and which cannot be detected by any of our **five senses**.

**Radiation** is transmission of energy as particles or as electromagnetic waves from the unstable nucleus of an atom.



**Radioactivity**: It is the phenomenon in which an unstable nucleus undergo transition.

Its unit is Bq (1 Bq = 1 disintegration per second)

20-Apr-22

## Non-Ionizing Radiation

**Non-Ionizing radiation**: Radiation that doesn't have enough energy needed to ionize an atom with which it interacts.

- radar waves
- microwaves
- visible light



Mobile phones use electromagnetic radiation in the microwave range



20-Apr-22

### Radiation sources around us

Everybody is exposed to natural radiation, it is inseparable. It is a fact of life.

**Natural sources**

- Cosmic rays
- Earth's surface
- Home we live in
- Food and drink we take

**Manmade sources**

- Nuclear power
- Mining
- Medical sources
- Waste

20-Apr-22

### Do radioactive material remain radioactive forever?

NO

Based on the half-life they remain radioactive for a certain period of time

$$N_t = N_0 e^{-\lambda t}$$

$$\lambda = 0.693 / T_{1/2}$$

April 20, 2022

### Cosmic Radiation

- Cosmic radiation comes from the sun and galaxies through the earth's atmosphere
- increases with latitude & altitude
- more at the poles than at the equator

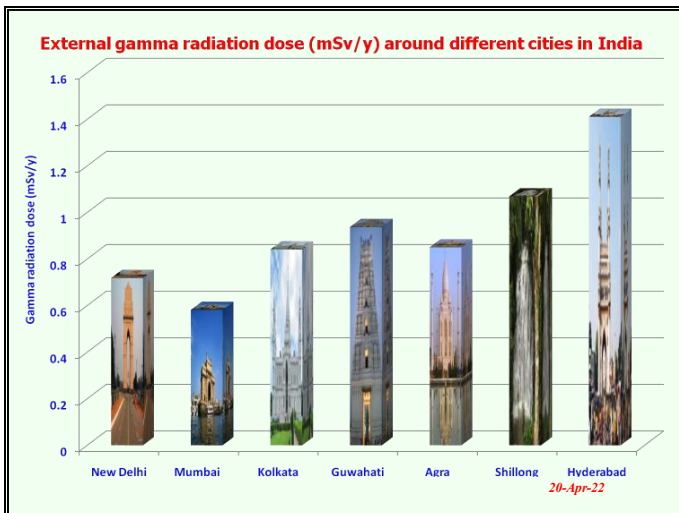
20-Apr-22

### DOSE RATE FROM COSMIC RAYS

	15 km	←	→	15 μSv/h
	10 km	←	→	5 μSv/h
	6.7 km Himalayas	←	→	1 μSv/h
	1 km Bengaluru	←	→	0.1 μSv/h
	Sea level	←	→	0.03 μSv/h

Note : 1000 μSv/hour = 1 mSv/hour

20-Apr-22



### Typical Uranium Levels in various matrices

Matrix	Typical Concentration	Visual Examples
Igneous rock	2 – 5 μg/g (25 – 60 Bq/kg)	
Granite	2- 20 μg/g (25 – 250 Bq/kg)	
Soil	2 – 10 μg/g (25 – 124 Bq/kg)	
Sediment	1 – 10 μg/g (12 – 124 Bq/kg)	
Sea water	3 μg/l	
Drinking water	0.1 – 2 μg/l	
Groundwater	0.1 – 5 μg/l	
Surface water	0.1 – 2 μg/l	
Food matrices	0.5 – 50 mBq/kg	
Air activity	0.5 – 1 ng/m³	

90 μg (2.25 Bq) in the body

1 ppm = 1 μg/g  
1 ppb = 1 μg/l  
In parenthesis activity of <sup>238</sup>U is reported

20-Apr-22

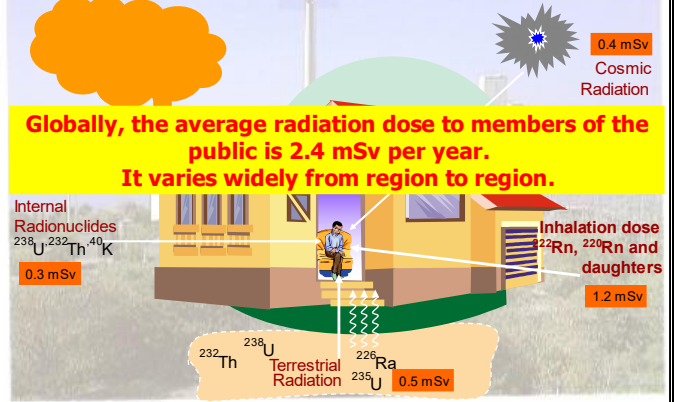
## What we eat

Food Stuffs	K-40 (Bq.kg <sup>-1</sup> )
Rice	40 – 90
Leafy Vegetables	80 – 220
Brinjal	90 – 140
Tapioca	85 – 120
Carrot	60 - 120
Beetroot	90 - 120



## NATURAL BACKGROUND RADIATION DOSE

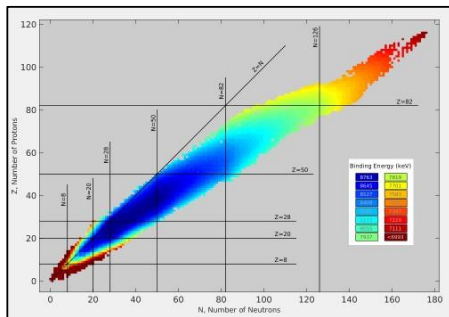
Contribution of various radionuclides and pathways to the **annual dose** to members of public from natural sources of ionizing radiation



## RADIO-ISOTOPES IN HUMAN HEALTH

### Radio-isotopes

A radionuclide (radioactive nuclide, radioisotope or radioactive isotope) is a nuclide that has excess nuclear energy, making it unstable.

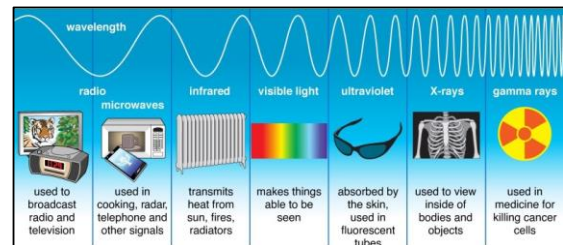


Binding energy per nucleon graph

### Radioactive decay

Three of the most common types of decay modes are

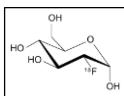
- Alpha decay ( $\alpha$ -decay) } Charged Particles
- Beta decay ( $\beta$ -decay) }
- Gamma decay ( $\gamma$ -decay) } Photon



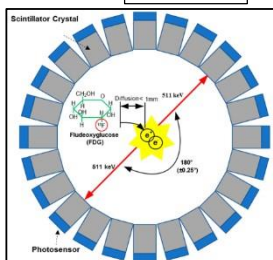
### Applications of positrons in human health

Positron Emission Tomography (PET) is a functional imaging technique that uses radioactive substances known as radiotracers to visualize and measure changes in metabolic processes

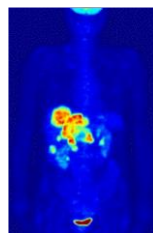
<sup>18</sup>F-FDG accumulates in tumors hence it is a major clinical tool in cancer diagnosis.



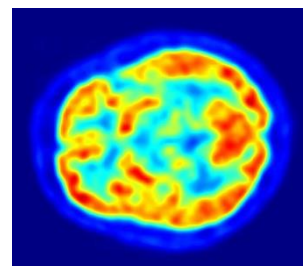
Isotope	Half-life
<sup>11</sup> C	20 min
<sup>13</sup> N	10 min
<sup>15</sup> O	2 min
<sup>18</sup> F	110 min
<sup>68</sup> Ga	67.81 min
<sup>64</sup> Cu	12.7 h
<sup>52</sup> Mn	5.6 d
<sup>55</sup> Co	17.5 h
<sup>89</sup> Zr	78.4 h
<sup>82</sup> Rb	1.3 min



PET Scan Machine



Whole-body PET scan using <sup>18</sup>F-FDG.



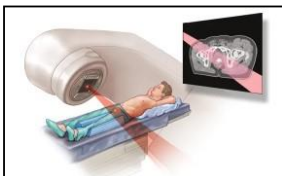
PET scan of the human brain using Oxygen-15

### External beam radiotherapy (γ radiation therapy)

It is the most common form of radiotherapy also known as tele-therapy

In this method radiation source is **away from the body**

The radiation is directed at the tumour from outside the body.



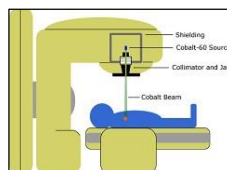
Medically useful photon beams can also be derived from a radioactive source such as <sup>192</sup>Ir, <sup>137</sup>Cs, <sup>226</sup>Ra, <sup>60</sup>Co.

Radioisotope	Half-life	Gamma ray energies	Remarks
<sup>192</sup> Ir	73.83 days	0.2 to 0.6 MeV	Long lived <sup>137</sup> Cs spoils image quality
<sup>137</sup> Cs	30.17 years	0.6617 MeV	
<sup>226</sup> Ra	1600 years	0.080 MeV	No longer used
<sup>60</sup> Co	5.27 years	1.1732 MeV and 1.3325 MeV	Good choice

### Some isotopes for radiotherapy

- <sup>131</sup>I - Thyroid cancer
- <sup>89</sup>Sr, <sup>153</sup>Sm - Bone Cancer
- <sup>223</sup>Ra Prostate cancer spreading to bones

#### <sup>60</sup>Co Radiotherapy

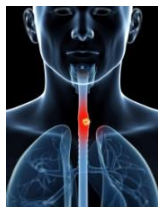


beta decay	0.317 MeV
gamma-rays	1.1732 MeV , 1.3325 MeV
Half-life	5.27 years

### Brachytherapy

**Brachytherapy** is a form of radiation therapy where a sealed radiation source is placed inside or next to the area requiring treatment.

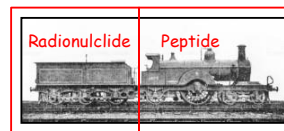
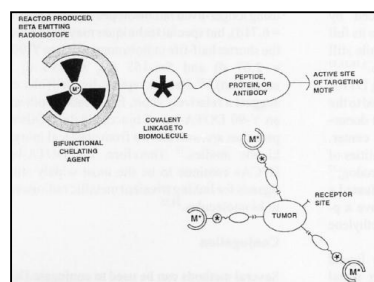
Brachytherapy instead involves the precise placement of short-range radiation-sources (radioisotopes, <sup>125</sup>I or <sup>131</sup>Cs for instance) directly at the site of the cancerous tumour.



It is commonly used for treatment for cervical, prostate, breast, oesophageal and skin cancer.

A new type of treatment method has evolved which is known as "Targeted Therapy"

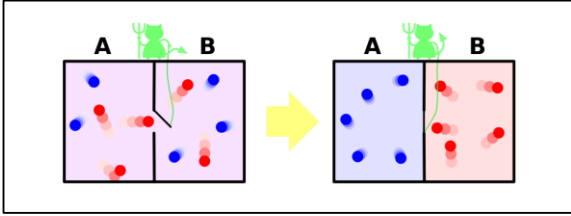
### Radionuclide Transport in the Human Body (Targeted Therapy)



Technology Nex-gen ???

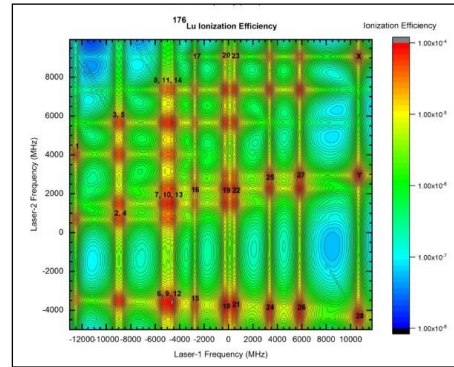
# Laser Isotope Separation

Maxwell's Demon's Problem

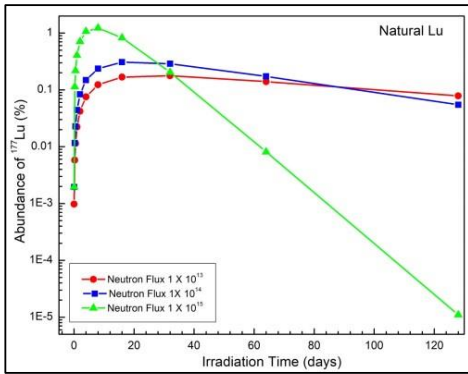


A demon which will reduce entropy of the system  
(Violation of 2<sup>nd</sup> law of Thermodynamics)

## Ionization Efficiency Contour

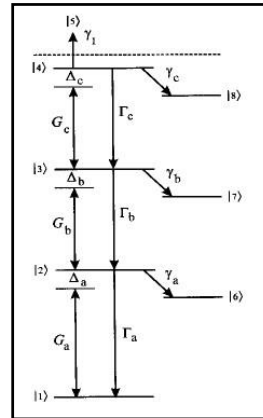


## Lu conversion efficiency to <sup>177</sup>Lu



<sup>176</sup>Lu thermal neutron absorption cross-section 2090 barns

## A Generalized Three-Step Photoionization Process



$G$  - Rabi Frequency  
 $\Gamma$  - decay rate to the lower level  
 $\gamma$  - decay rate to the trap level  
 $\Delta$  - Detuning from resonance level

Lu Ionization Potential =  $43762.6 \text{ cm}^{-1}$  (5.426 eV)