RAAK

COLLEGE OF ENGINEERING AND TECHNOLOGY

(Approved by AICTE, New Delhi & Affiliated to Pondicherry University)

From

02/08/2021

Mrs.L. Rogini Devi

Assistant Professor/S&H

RAAK College of Engineering and Technology

Puducherry -110

To

The Principal

RAAK College of Engineering and Technology

Puducherry -110

Respected Sir,

Sub: Requisition for Approval to Conduct Skill Development program / Value added Course on **"21SH01- Introduction to Nanotechnology"** - reg.

This is to bring to your kind notice that the Skill Development Team is planning to conduct a Program on **"21SH01- Introduction to Nanotechnology"** for all the first Year Department of Science & Humanities. students on 09-08-2021 to 13-08-2021.

The main focus of this program is to provide a better exposure to our students on the Indroduction To Nanotechnology for practical applications.

The syllabus and course plan structured are not listed in the Pondicherry University Curriculum. and the same have been verified and approved by the Principal/HoD/Professors and Skill development team.

Hence, I kindly request you to approve event planned. The details and the necessary proofs are attached with this letter.

Thanking you,

Yours faithfully,

L. Rogini Devi

AP/S&H

RAAK College of Engineering & Technology

Dr. S. SEENUVASAMURTHI, M.E., Ph.D.
PRINCIPAL
RAAK College of Engineering & Technology
No.1, Muthupillai Palayam Road,
Sulthanpet Post,
Puducherry - 605 110

RAAK

COLLEGE OF ENGINEERING AND TECHNOLOGY

(Approved by AICTE, New Delhi & Affiliated to Pondicherry University)

RAAKCET/PRINCIPAL/CIR/AUG2021 03/08/2021

:

CIRCULAR

This is to inform that the Skill Development Team is planning to conduct a value added course on

"**21SH01- Introduction to Nanotechnology**" for all the First Year Department of Science & Humanities.

Students from 09-08-2021 to 13-08-2021.Students are asked to utilize this opportunity and improve their skills

PRINCIPAL

Circulation to:

1. All Students
2. All Faculty & Staff Members
3. All HoDs

Copy to:

1. All HoDs
2. Office

Dr. S. SEENUVASAMURTHI, M.E., Ph.D.
PRINCIPAL
RAAK College of Engineering & Technology
No.1, Muthupillai Palayam Road,
Sulthanpet Post,
Puducherry - 605 110

RAAK College of Engineering & Technology

RAAK

COLLEGE OF ENGINEERING AND TECHNOLOGY

(Approved by AICTE, New Delhi & Affiliated to Pondicherry University)
An ISO 9001:2015 Certified Institution

DEPARTMENT OF SCIENCE AND HUMANITIES PRESENTS

VALUE ADDED COURSE ON

INTRODUCTION TO NANOTECHNOLOGY (ONLINE MODE)

2021-2022

DATE: 09/08/2021 to 13/08/2021

VENUE: RAAKCET

TIME: 09 am to 04 pm

Resource Person:

Dr. V. Kalaiselvi
Assistant Professor,
Achariya College of Engg & Tech.

For Registration Contact:

Ms. Jamuna , AP/ S & H,
8721978456.

HOD

Mr. S. Ramachandran

PRINCIPAL

Dr. S. Seenuvasamurthi

Dr. S. SEENUVASAMURTHI, M.E., Ph.D.
PRINCIPAL
RAAK College of Engineering & Technology
No.1, Muthupillai Palayam Road,
Sulthanpet East,
Puducherry

raakengg@mail.com

WWW.raakengg.com

RAAK

COLLEGE OF ENGINEERING AND TECHNOLOGY

(Approved by AICTE, New Delhi & Affiliated to Pondicherry University)

Value Added Courses

2021-2022

Department of Science & Humanities.

21SH01- Introduction to Nanotechnology

Syllabus

Duration: 36 hours

Course Objective:

- The objective of nanotechnology is to combine different branches of science to optimize and utilize nano materials for various applications, such as medicine, engineering, energy production, and environmental protection.
- TO develop better-built and smarter products by manipulating molecules and atoms that less than 100nm in size
- Nano materials for various applications, such as medicine, engineering, energy production, and environmental protection.
- Nano materials for various applications, such as medicine, engineering, energy production, and environmental protection.

Course Outcomes:

- Understand the use of basic quantum concepts for describing nano systems and processes.
- Understand and use the quantum methods for describing nano systems.
- Understand theory of ensembles required for describing nano systems.
- Understand advanced quantum techniques to describe the nano systems.

Module 1: Background to Nanoscience **(9 Hours)**

Background to Nanoscience: Defination of Nano, Scientific revolution-Atomic Structure and atomic size, emergence and challengs of nanoscience and nanotechnology, carbon age-new form of carbon (CNT to Graphene), influence of nano over micro/macro, size effects and crystals, large surface to volume ration, surface effects on the properties.

Module 2: Types of nanostructure **(9 Hours)**

Types of nanostructure and properties of nanomaterials: One dimensional, Two dimensional and Three dimensional nanostructured materials, Quantum Dots shell structures, metal oxides, semiconductors, composites, mechanical-physical-chemical properties.

Module 3: Application of Nanomaterial **(9 Hours)**

Application of Nanomaterial: Ferroelectric materials, coating, molecular electronics and nanoelectronics, biological and environmental, membrane based application, polymer based application.

Module 4: Background to Nanoscience **(9 Hours)**

Background to Nanoscience: Defination of Nano, Scientific revolution-Atomic Structure and atomic size, emergence and challengs of nanoscience and nanotechnology, carbon age-new form of carbon (CNT to Graphene), influence of nano over micro/macro, size effects and crystals, large surface to volume ration, surface effects on the properties.

Dr. S. SEENUVASAMURTHI, M.E., Ph.D.
PRINCIPAL
RAAK College of Engineering & Technology
No.1, Muthupillai Palayam Road,
Sulthanpet Post,
Puducherry - 605 110

Module 5: properties of nanomaterials **(9 Hours)**

Types of nanostructure and properties of nanomaterials: One dimensional, Two dimensional and Three dimensional nanostructured materials, Quantum Dots shell structures, metal oxides, semiconductors, composites, mechanical-physical-chemical properties.

Course Designed by **Approved by** **Principal**

Dr. S. SEENUVASAMURTHI, M.E., Ph.D.
PRINCIPAL
RAAK College of Engineering & Technology
No.1, Muthupillai Palayam Road,
Sulthanpet Post,
Puducherry - 605 110

RAAK

COLLEGE OF ENGINEERING AND TECHNOLOGY

(Approved by AICTE, New Delhi & Affiliated to Pondicherry University)

CO - ATTAINMENT MAPPING

Sl. No	Register Number	Student Name	CO1	CO2	CO3	CO4
1.	21TD0701	AMEERA.A	✓	✓	✓	✓
2.	21TD0702	ARUN M	✓	✓	✓	✓
3.	21TD0703	BASITH RUBANI	✓	✓	✓	✓
4.	21TD0704	DEVANATHAN.R	✓	✓	✓	✓
5.	21TD0705	DHINESH KUMAR.R	✓	✓	✓	✓
6.	21TD0706	FELIX	✓	✓	✓	✓
7.	21TD0707	HARINI .D	✓	✓	✓	✓
8.	21TD0708	HARISH.T	✓	✓	✓	✓
9.	21TD0709	JABEEN.R	✓	✓	✓	✓
10.	21TD0710	JANA. A	✓	✓	✓	✓
11.	21TD0711	JEROMELUCIAN .C	✓	✓	✓	✓
12.	21TD0712	KALIMULLAHKHAN.D	✓	✓	✓	✓
13.	21TD0713	KISHORE.R	✓	✓	✓	✓
14.	21TD0714	KUMARAN.K	✓	✓	✓	✓
15.	21TD0715	LATHA.S	✓	✓	✓	✓
16.	21TD0716	MARY JENIFER M.B	✓	✓	✓	✓
17.	21TD0717	MOHAMMED ALZUBAIRE.M	✓	✓	✓	✓

RAAK College of Engineering & Technology

Dr. S. SEENUVASAMURTHI, M.E., Ph.D.
PRINCIPAL
RAAK College of Engineering & Technology
No.1, Muthupillai Palayam Road,
Sulthanpet Post,
Puducherry - 605 110

18.	21TD0718	MOHANRAJ .M	✓	✓	✓	✓
19.	21TD0719	MUHAMMED ASHRAR .AM	✓	✓	✓	✓
20.	21TD0720	NANDHINI.S	✓	✓	✓	✓
21.	21TD0721	PRAVEENA.M	✓	✓	✓	✓
22.	21TD0722	PREMKUMAR.R	✓	✓	✓	✓
23.	21TD0723	RAAFIYA TABASSUM.Z	✓	✓	✓	✓
24.	21TD0724	RAGAVI.R	✓	✓	✓	✓
25.	21TD0725	ROGAN.M	✓	✓	✓	✓
26.	21TD0726	SANTHOSH.S	✓	✓	✓	✓
27.	21TD0727	SHARON SAJI GEORGE	✓	✓	✓	✓
28.	21TD0728	SHIFA JASMINE.S	✓	✓	✓	✓
29.	21TD0729	SOBANA.R	✓	✓	✓	✓
30.	21TD0730	SRIDHAR.A	✓	✓	✓	✓
31.	21TD0731	SUBASH.M	✓	✓	✓	✓
32.	21TD0732	SUKESH.M	✓	✓	✓	✓
33.	21TD0733	THIRUVALLURU SUJITH	✓	✓	✓	✓
34.	21TD0734	VASU.P	✓	✓	✓	✓
35.	21TD0735	VIJI.B	✓	✓	✓	✓
36.	21TD0736	VISHNU.R	✓	✓	✓	✓

RAAK College of Engineering & Technology

Dr. S. SEENUVASAMURTHI, M.E., Ph.D.
PRINCIPAL
RAAK College of Engineering & Technology
No.1, Muthupillai Palayam Road,
Sulthanpet Post,
Puducherry - 605 110

37.	21TC0451	FAIZ AHMED A	✓	✓	✓	✓
38.	21TC0452	HEMAMALINI J	✓	✓	✓	✓
39.	21TC0454	MOHAMMED UMAR B	✓	✓	✓	✓
40.	21TC0455	NIRUBAMASRI M	✓	✓	✓	✓
41.	21TC0456	PREETHISH KUMAR P	✓	✓	✓	✓
42.	21TC0457	RAMYA V	✓	✓	✓	✓
43.	21TC0458	SARASWATHY R	✓	✓	✓	✓
44.	21TC0460	SHANMUGA PRASATH C	✓	✓	✓	✓
45.	21TC0461	SIVARANJANI M	✓	✓	✓	✓
46.	21TC0462	SUJAY S	✓	✓	✓	✓
47.	21TC0463	SUSAIRAJ S	✓	✓	✓	✓
48.	21TC0464	SUSANA ROZHE A	✓	✓	✓	✓
49.	21TC0465	VASANTH S	✓	✓	✓	✓
50.	21TC0466	YUVASELVANATHAN B	✓	✓	✓	✓
51.	21TE0091	AGILAN .M	✓	✓	✓	✓
52.	21TE0093	BALAMURUGAN.R	✓	✓	✓	✓
53.	21TE0094	DHINESH.V	✓	✓	✓	✓
54.	21TE0095	JAGADEESH .S	✓	✓	✓	✓
55.	21TE0097	PRASANTH.R	✓	✓	✓	✓

RAAK College of Engineering & Technology

Dr. S. SEENUVASAMURTHI, M.E., Ph.D.
PRINCIPAL
RAAK College of Engineering & Technology
No.1, Muthupillai Palayam Road,
Sulthanpet Post,
Puducherry - 605 110

56.	21TE0098	RAGUL .S	✓	✓	✓	✓
57.	21TE0099	SAKTHIVEL.S	✓	✓	✓	✓
58.	21TE0100	SANTHOSH.R	✓	✓	✓	✓
59.	21TE0101	SELVAM.R	✓	✓	✓	✓
60.	21TE0102	SURESH KUMAR.R	✓	✓	✓	✓

RAAK College of Engineering & Technology

Dr. S. SEENUVASAMURTHI, M.E., Ph.D.
PRINCIPAL
RAAK College of Engineering & Technology
No.1, Muthupillai Palayam Road,
Sulthanpet Post,
Puducherry - 605 110

RAAK

COLLEGE OF ENGINEERING AND TECHNOLOGY

(Approved by AICTE, New Delhi & Affiliated to Pondicherry University)

Value Added Courses

2021-2022

Department of Science & Humanities.

21SH01- Introduction to Nanotechnology

COURSE PLAN

S.no	Date	Hours	Time	Topic	Resource Person
DAY -1					
1	09.08.21	1,2	9AM -11AM	Background to Nanoscience: Defination of Nano, Scientific revolution- Atomic Structure and atomic size	Dr.V.Kalaiselvi & Dr.P.Arul
2		3,4	11.15AM – 1.15 PM	emergence and challengs of nanoscience and nanotechnology, carbon age-new form of carbon (CNT to Graphene), influence of nano	Dr.V.Kalaiselvi
3		5,6	2 PM -4PM	over micro/macro, size effects and crystals, large surface to volume ration, surface effects on the properties.	Dr.P.Arul
DAY 2					
4	10.08.21	7,8	9AM -11AM	Types of nanostructure and properties of nanomaterials: One dimensional,	Dr.V.Kalaiselvi
5		9,10,	11.15AM – 1.15 PM	, Two dimensional and Three dimensional nanostructured materials, Quantum Dots shell structures	Dr.P.Arul
6		11,12	2 PM -4PM	metal oxides, semiconductors, composites, mechanical-physical-chemical properties.	Dr.V.Kalaiselvi

RAAK College of Engineering & Technology

Dr. S. SEENUVASAMURTHI, M.E., Ph.D.
PRINCIPAL
RAAK College of Engineering & Technology
No.1, Muthupillai Palayam Road,
Sulthanpet Post,
Puducherry - 605 110

DAY -3					
7	11.08.21	13,14	9AM -11AM	Application of Nanomaterial: Ferroelectric materials, coating	Dr.P.Arul
8		15,16	11.15AM – 1.15 PM	-, molecular electronics and nanoelectronics, biological and environmental,	Dr.V.Kalaiselvi
9		17,18	2 PM -4PM	membrane based application, polymer based application.	Dr.P.Arul
DAY -4					
10	12.08.21	19,20	9AM -11AM	Background to Nanoscience: Defination of Nano, Scientific revolution-Atomic Structure and atomic size	Dr.V.Kalaiselvi
11		21,22	11.15AM – 1.15 PM	, emergence and challengs of nanoscience and nanotechnology, carbon age-new form of carbon (CNT to Graphene),	Dr.P.Arul
12		23,24	2 PM -4PM	influence of nano over micro/macro, size effects and crystals, large surface to volume ration, surface effects on the properties	Dr.V.Kalaiselvi
DAY -5					
13	13.08.21	25,26	9AM -11AM	Types of nanostructure and properties of nanomaterials: One dimensional	Dr.P.Arul
14		27,28	11.15AM – 1.15 PM	Two dimensional and Three dimensional nanostructured materials,	Dr.V.Kalaiselvi
15		29,30	2 PM -4PM	Quantum Dots shell structures, metal oxides,	Dr.P.Arul

RAAK College of Engineering & Technology

Dr. S. SEENUVASUMURTHI, M.E., Ph.D.
PRINCIPAL
RAAK College of Engineering & Technology
No.1, Muthupillai Palayam Road,
Sulthanpet Post,
Puducherry - 605 110

				semiconductors, composites, mechanical-physical-chemical properties	
ASESSMENT EXAM WILL BE CONDUCTED AFTER ONE WEEK OF COURSE COMPLETION *					

BREAK TIME: 11.00 TO 11.15 AM **LUNCH BREAK: 1.15 PM TO 2.00 PM**

COURSE DESIGNED BY
MRS.L.ROGINI DEVI

APPROVED BY
SKILL DEVELOPMENT TEAM

PRINCIPAL
DR.S.SEENUVASAMURTHI

RAAK College of Engineering & Technology

Dr. S. SEENUVASAMURTHI, M.E., Ph.D.
PRINCIPAL
RAAK College of Engineering & Technology
No.1, Muthupillai Palayam Road,
Sulthanpet Post,
Puducherry - 605 110

RAAK

COLLEGE OF ENGINEERING AND TECHNOLOGY

(Approved by AICTE, New Delhi & Affiliated to Pondicherry University)

VALUE ADDED COURSES

2021-2022

Department of Science & Humanities.

EVENT REPORT

Name of the Course: 21SH01- Introduction to Nanotechnology(Online Mode)

Name of the Instructors: Dr.V. Kalaiselvi & Dr.P.Arul

Year/ Branch: I/ S&H

Duration of Course: 36 Hours (09-08-2021 to 13-08-2021)

Assessment Date: 20.08.2021

Post Event Summary:

The course was inaugurated on 09-08-2021 at 9.30 A.M. by our respectable principal and sessions were continued as per the schedule. Students were enriched their knowledge by attending the course. Finally, the course concluded by vote of thanks.

On 20.08.2021 assessment was conducted and feedbacks were collected from all the participants.

CO - Attainment:

CO1: Understand the use of basic quantum concepts for describing nano systems and processes.
CO2: Understand and use the quantum methods for describing nano systems.
CO3: Understand theory of ensembles required for describing nano systems.
CO4: Understand advanced quantum techniques to describe the nano systems.

RAAK College of Engineering & Technology

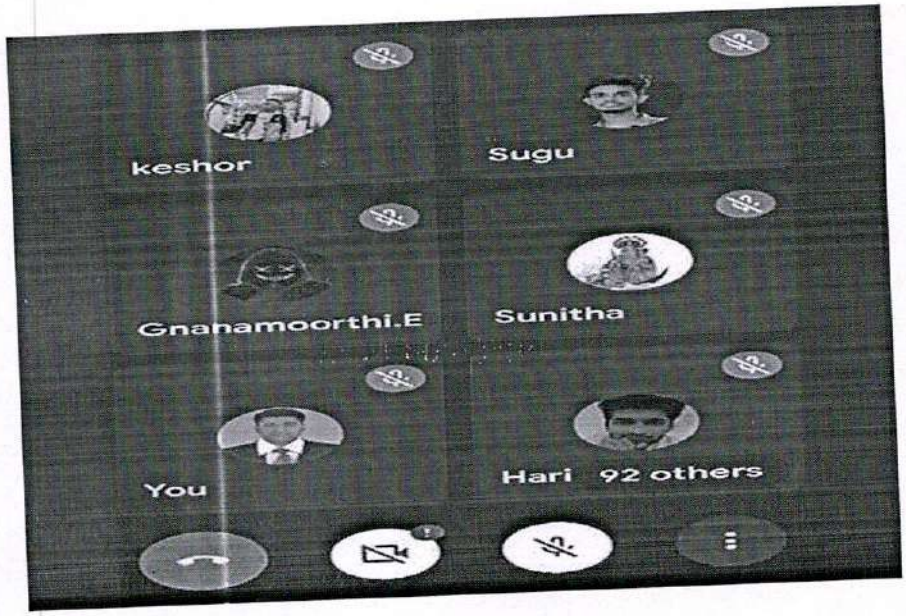
Dr. S. SEENUVASAMURTHI, M.E., Ph.D.,
PRINCIPAL
RAAK College of Engineering & Technology
No.1, Muthupillai Palayam Road,
Sulthanpet Post,
Puducherry - 605 110

RAAK

COLLEGE OF ENGINEERING AND TECHNOLOGY

(Approved by AICTE, New Delhi & Affiliated to Pondicherry University)
An ISO 9001:2015 Certified Institution

Value Added Course on Introduction to Nanotechnology 2021-22



Two dimensional and Three dimensional nanostructured materials on 13.08.21

Dr. S. SEENUVASAMURTHI, M.E., Ph.D.
PRINCIPAL
RAAK College of Engineering & Technology
No.1, Muthupillai Palayam Road,
Sulthanpet Post,
Puducherry - 605 110

RAAK

COLLEGE OF ENGINEERING AND TECHNOLOGY

(Approved by AICTE, New Delhi & Affiliated to Pondicherry University)

From

02/08/2021

Mrs.L.Rogini Devi

Assistant Professor/S&H

RAAK College of Engineering and Technology

Puducherry -110

To

The Principal

RAAK College of Engineering and Technology

Puducherry -110

Respected Sir,

Sub: Requisition for Approval to Conduct Skill Development program / Value added Course on **"21SH02- Atomic and Nuclear Physics - reg.**

This is to bring to your kind notice that the Skill Development Team is planning to conduct a Program on **"21SH02- Atomic and Nuclear Physics"** for all the first Year Department of Science & Humanities Students from 09-08-2021 to 13-08-2021.

The main focus of this program is to provide a better exposure to our students on the "Atomic and Nuclear Physics" practical applications.

The syllabus and course plan structured are not listed in the Pondicherry University Curriculum. and the same have been verified and approved by the Principal/HoD/Professors and Skill development team.

Hence, I kindly request you to approve event planned. The details and the necessary proofs are attached with this letter.

Thanking you,

Yours faithfully,

L. Rogini

Mrs.L.Rogini Devi

AP/S&H

Dr. S. SEENUVASAMURTHI, M.E., Ph.D.
PRINCIPAL
RAAK College of Engineering & Technology
No.1, Muthupillai Palayam Road,
Sulthanpet Post,
Puducherry - 605 110

RAAK

COLLEGE OF ENGINEERING AND TECHNOLOGY

(Approved by AICTE, New Delhi & Affiliated to Pondicherry University)

RAAKCET/PRINCIPAL/CIR/AUG2021 **03/08/2021**

CIRCULAR

This is to inform that the Skill Development Team is planning to conduct a value added course on **"21SH02- Atomic and Nuclear Physics"** for all the first year department of science & humanities.

Students from 09-08-2021 to 13-08-2021.Students are asked to utilize this opportunity and improve their Skills.

PRINCIPAL

Dr. S. SEENUVASAMURTHI, M.E., Ph.D.
PRINCIPAL
RAAK College of Engineering & Technology
No.1, Muthupillai Palayam Road,
Sulthanpet Post,
Puducherry - 605 110

Circulation to:

1. All Students
2. All Faculty & Staff Members
3. All HoDs

Copy to:

1. All HoDs
2. Office

RAAK

COLLEGE OF ENGINEERING AND TECHNOLOGY

(Approved by AICTE, New Delhi & Affiliated to Pondicherry University)
An ISO 9001:2015 Certified Institution

DEPARTMENT OF SCIENCE AND HUMANITIES
PRESENTS
VALUE ADDED COURSE ON
ATOMIC AND NUCLEAR PHYSICS (ONLINE MODE)

2021-2022

DATE: 09/08/2021 to 13/08/2021

VENUE: RAAKCET

TIME: 09 am to 04 pm

Resource Person:

Dr. P. Arul
Assistant Professor,
Sri Manakula Vinayagar Institute of Tech.

For Registration Contact:

Mr. M. Prapaharan, AP/ S & H,
9943954009.

HOD **PRINCIPAL**

Mr. S. Ramachandran **Dr. S. Seenuvasamurthi**

RAAK College of Engineering & Technology

Dr. S. SEENUVASAMURTHI, M.E., Ph.D.
PRINCIPAL
RAAK College of Engineering & Technology
No.1, Muthupillai Palayam Road,
Sulthanpet Post,
Puducherry - 605 1

raakengg@mail.com
WWW.raakengg.com

RAAK

COLLEGE OF ENGINEERING AND TECHNOLOGY

(Approved by AICTE, New Delhi & Affiliated to Pondicherry University)

VALUE ADDED COURSES

2021-2022

Department of Science & Humanities.

21SH02- Atomic and Nuclear Physics

Syllabus

Duration: 36 hours

Course Objective:

The aim is to understand why matter takes on the specific forms now observed in nature and how that knowledge can benefit society in the areas of commerce, medicine, and national security.

Course Outcomes:

CO1: To introduce properties of nuclei and details of popular nuclear model.

CO2: To derive and discuss properties of nuclear decays and nuclear reactions in brief.

CO3: To familiarize with the fundamental forces and the dynamics of elementary particles under these forces.

CO4: To overview basic relativistic quantum mechanics and quantum electrodynamics for particle physics.

.

Module 1: Cathode Rays and Positive Rays **(9 Hours)**

Cathode Rays and Positive Rays. Cathode rays – properties – e/m of cathode rays – Milliken's oil drop method – Positive rays – Properties – e/m of Positive rays: Thomson"s parabola method – Aston's &Bain's bridge - Determination of critical Potential – Franck and Hertz"s experiment – Davison's and Germermethod.

Module 2: Vector Atom model **(9 Hours)**

Vector Atom model Various quantum numbers, L-S and j-j Couplings – Pauli's exclusion principle – electronic configuration of elements and periodic classification – magnetic dipole moment of electron due to orbital and spin motions – Bohr magneton, stern and Gerlach experiment.

Module 3: selection rules **(9 Hours)**

Fine structure of special lines Special terms and notations – selection rules- intensity rule and interval rule – Fine structure of sodium D lines – Alkali spectra – Fine structure in Alkali spectra – spectrum of Helium – Zeeman effect - Larmor"s theorem – Debye's quantum mechanical explanation of the normal Zeeman effect – Anamolous Zeeman effect – theoretical explanation, Landeg factor.

RAAK College of Engineering & Technology

Dr. S. SEENUVASAMURTHI, M.E., Ph.D.,
PRINCIPAL
RAAK College of Engineering & Technology
No.1, Muthupillai Palayam Road,
Sulthanpet Post,
Puducherry - 605 110

Module 4: Particle detectors **(9 Hours)**

Particle detectors and Atom models Review of basic properties of nuclei – mass, radius, binding energy, nuclear moments – isotopes – isobars – radioactivity. Cyclotron – Betatron – Geiger Muller counter – cloud chamber – Q value of nuclear reaction. Photo electric effect – Einstein photo electric eqn – Laws of photo electric eqn – Millikan's experiment – Photoelectric cells. Photo voltaic cell – photo conductive cells – photo multiplier.

Module 5: Liquid Drop Model **(9 Hours)**

Liquid Drop Model – application to fission, fission fragments, nuclear energy – Carbon – Nyrogen cycle – atom bomb. Shell Model – magic numbers – Basic ideas of a nuclear reactor. Solar energy – hydrogen bomb.

Course Designed By **Approved By** **Principal**

RAAK College of Engineering & Technology

Dr. S. SEENUVASAMURTHI, M.E., Ph.D.
PRINCIPAL
RAAK College of Engineering & Technology
No.1, Muthupillai Palayam Road,
Sulthanpet Post,
Puducherry - 605 110

RAAK

COLLEGE OF ENGINEERING AND TECHNOLOGY

(Approved by AICTE, New Delhi & Affiliated to Pondicherry University)

CO - ATTAINMENT MAPPING

Sl. No	Register Number	Student Name	CO1	CO2	CO3	CO4
1.	21TH0251	AJAY S	✓	✓	✓	✓
2.	21TH0252	ANJUM S	✓	✓	✓	✓
3.	21TH0253	ASWINI S	✓	✓	✓	✓
4.	21TH0254	DHARUN SOORYA KUMAR S	✓	✓	✓	✓
5.	21TH0256	GANESH R	✓	✓	✓	✓
6.	21TH0257	HARIHARAN V	✓	✓	✓	✓
7.	21TH0258	HEERA R.K	✓	✓	✓	✓
8.	21TH0259	HEMA M	✓	✓	✓	✓
9.	21TH0260	JEEVANKUMAR M	✓	✓	✓	✓
10.	21TH0261	KAVIYA S	✓	✓	✓	✓
11.	21TH0262	KAVIYA V	✓	✓	✓	✓
12.	21TH0263	KUMARAN J	✓	✓	✓	✓
13.	21TH0265	MANIBHARATHI V	✓	✓	✓	✓
14.	21TH0268	MOHAMED FAROOK M	✓	✓	✓	✓
15.	21TH0269	NANDHINI A	✓	✓	✓	✓
16.	21TH0270	POOJA R V	✓	✓	✓	✓
17.	21TH0271	PUNITHA S	✓	✓	✓	✓

RAAK College of Engineering & Technology

Dr. S. SEENUVASAMURTHI, M.E., Ph.D.
PRINCIPAL
RAAK College of Engineering & Technology
No.1, Muthupillai Palayam Road,
Sulthanpet Post,
Puducherry - 605 110

18.	21TH0272	PUSHPARAJ P	✓	✓	✓	✓
19.	21TH0273	RANJANA J	✓	✓	✓	✓
20.	21TH0274	SANGAVI C	✓	✓	✓	✓
21.	21TH0275	SHARMILA S	✓	✓	✓	✓
22.	21TH0276	SIVAPRAGASAM P	✓	✓	✓	✓
23.	21TH0277	SOUNDHARYA S	✓	✓	✓	✓
24.	21TH0278	SOWMIYA M	✓	✓	✓	✓
25.	21TH0279	SRIRAM G	✓	✓	✓	✓
26.	21TH0280	VANITHA S	✓	✓	✓	✓
27.	21TH0281	VIMALRAJ N	✓	✓	✓	✓
28.	21TH0282	VINOTHKUMAR V	✓	✓	✓	✓
29.	21TB0111	ARASAKUMAR.S	✓	✓	✓	✓
30.	21TB0113	DHIVAGAR G	✓	✓	✓	✓
31.	21TB0114	HARIHARAN S	✓	✓	✓	✓
32.	21TB0115	KARAN.P	✓	✓	✓	✓
33.	21TB0117	ROHIT BRUNO.K	✓	✓	✓	✓

RAAK College of Engineering & Technology

Dr. S. SEENUVASAMURTHI, M.E., Ph.D.
PRINCIPAL
RAAK College of Engineering & Technology
No.1, Muthupillai Palayam Road,
Sulthanpet Post,
Puducherry - 605 110

RAAK

COLLEGE OF ENGINEERING AND TECHNOLOGY

(Approved by AICTE, New Delhi & Affiliated to Pondicherry University)

VALUE ADDED COURSES

2021-2022

Department of Science & Humanities

21SH02- Atomic and Nuclear Physics

COURSE PLAN

S.no	Date	Hours	Time	Topic	Faculty details
DAY -1					
1	09.08.21	1,2	9AM -11AM	sources of water - Characteristics of water, Water Analysis- study of \\11k'r samples - acidity..	Dr.P.Arul &Dr.A.Victor Antony
2		3,4	11.15AM – 1.15 PM	alkalinity. Hardness, free chlorine, chlorine demand, calcium, mug.nc$.ium. iron. manganese. zinc	Dr.P.Arul
3		5,6	2 PM -4PM	ammonia, nitrate, sulphate and fluoride, DOC, BOD, COD and their imporatance - Disadvantages of hard water - Scale and sludge formation in boiler Brackish water:	Dr.A.Victor Antony
DAY 2					
4	10.08.21	7,8	9AM -11AM	lnroduction -water Pollutants - physical and chemical pollution of water - ground water pollution - harmful effects of ground water pollution - surface water	Dr.P.Arul
5		9,10,	11.15AM – 1.15 PM	River water and sea water p0llution.	Dr.A.Victor Antony
6		11,12	2 PM -4PM	Oil pollution of water. Effects oil pollution in marine water - Radioactive materials in water- ROle of pollution control boards.	Dr.P.Arul
DAY -3					
7	11.08.21	13,14	9AM -11AM	Physico chemical Examination of water 10 Hrs Collection of samples - colour, - Odour	Dr.A.Victor Antony

RAAK College of Engineering & Technology

Dr. S. SEENUVASAMURTHI, M.E., Ph.D.
PRINCIPAL
RAAK College of Engineering & Technology
No.1, Muthupillai Palayam Road,
Sulthanpet Post,
Puducherry - 605 110

				Turbidity pH - temperature - Soilds:	
8		15,16	11.15AM – 1.15 PM	Total Solids. DissolYed solids, suspended solids, settable solids - Acidity - Alkalinity - Hardness - calcium. ~lugnesium	Dr.P.Arul
9		17,18	2 PM -4PM	, Sodium - Potassium - Iron- Dissolved Qxygen, BOD, COD, biological and chemical treatments.	Dr.A.Victor Antony
DAY -4					
10	12.08.21	19,20	9AM -11AM	Concept of material, energy momentum balance	Dr.P.Arul
11		21,22	11.15AM – 1.15 PM	case study of process variables and control in typical unit operation as distillation	Dr.A.Victor Antony
12		23,24	2 PM -4PM	absorption, reactors, heat exchangers	Dr.P.Arul
DAY -5					
13	13.08.21	25,26	9AM -11AM	Automation of Assembly lines- Concept of automation in industry,mechanization and automation.	Dr.A.Victor Antony
14		27,28	11.15AM – 1.15 PM	. Automation using Hydraulic systems – Design aspects of various elements of hydraulic systems such as pumps, valves, filters	Dr.P.Arul
15		29,30	2 PM -4PM	reservoirs, accumulators, actuators and intensifiers.	Dr.A.Victor Antony

ASESSMENT EXAM WILL BE CONDUCTED AFTER ONE WEEK OF COURSE COMPLETION *

BREAK TIME: 11.00 TO 11.15 AM **LUNCH BREAK: 1.15 PM TO 2.00 PM**

RAAK College of Engineering & Technology

Dr. S. SEENUVASAMURTHI, M.E., Ph.D.
PRINCIPAL
RAAK College of Engineering & Technology
No.1, Muthupillai Palayam Road,
Sulthanpet Post,
Puducherry - 605 110

RAAK

COLLEGE OF ENGINEERING AND TECHNOLOGY

(Approved by AICTE, New Delhi & Affiliated to Pondicherry University)

COURSE DESIGNED BY	APPROVED BY	PRINCIPAL
Mrs.L.ROGINI DEVI	SKILL DEVELOPMENT TEAM	Dr.S.SEENUVASAMURTHI

RAAK College of Engineering & Technology

Dr. S. SEENUVASAMURTHI, M.E., Ph.D.
PRINCIPAL
RAAK College of Engineering & Technology
No.1, Muthupillai Palayam Road,
Sulthanpet Post,
Puducherry - 605 110

RAAK

COLLEGE OF ENGINEERING AND TECHNOLOGY

(Approved by AICTE, New Delhi & Affiliated to Pondicherry University)

VALUE ADDED COURSES

2021-2022

Department of Science & Humanities

EVENT REPORT

Name of the Course: 21SH02- Atomic and Nuclear Physics

Name of the Instructors: Dr.P.Arul &Dr.A.Victor Antony

Year/ Branch: I/ S&H

Duration of Course: 36 Hours (09-08-2021 to 13-08-2021)

Assessment Date: 20.08.2021

Post Event Summary:

The course was inaugurated on 09-08-2021 at 9.30 A.M. by our respectable principal and sessions were continued as per the schedule. Students were enriched their knowledge by attending the course. Finally, the course concluded by vote of thanks.

On 20.08.2021 assessment was conducted and feedbacks were collected from all the participants.

CO - Attainment:

CO1: To introduce properties of nuclei and details of popular nuclear model.

CO2: To derive and discuss properties of nuclear decays and nuclear reactions in brief.

CO3: To familiarize with the fundamental forces and the dynamics of elementary particles under these forces.

CO4: To overview basic relativistic quantum mechanics and quantum electrodynamics for particle physics.

RAAK College of Engineering & Technology

Dr. S. SEENUVASAMURTHI, M.E., Ph.D.
PRINCIPAL
RAAK College of Engineering & Technology
No.1, Muthupillai Palayam Road,
Sulthanpet Post,
Puducherry - 605 110

RAAK

COLLEGE OF ENGINEERING AND TECHNOLOGY

(Approved by AICTE, New Delhi & Affiliated to Pondicherry University)
An ISO 9001:2015 Certified Institution

Value Added Course on Atomic and Nuclear Physics 2021-22

Automation of Assembly lines- Concept of automation in industry,mechanization and automation.on 12.08.21

RAAK College of Engineering & Technology

Dr. S. SEENUVASAMURTHI, M.E., Ph.D.
PRINCIPAL
RAAK College of Engineering & Technology
No.1, Muthupillai Palayam Road,
Sulthanpet Post,
Puducherry - 605 110