



Department of Physics
MARY MATHA ARTS & SCIENCE COLLEGE
MANANTHAVADY

(Affiliated to Kannur University)

www.marymathacollege.ac.in, mmcmntdy@gmail.com

Mananthavady
3-09-2021

Dr. Akhila B Edathazhe
Assistant Professor
Department of Physics
Mary Matha Arts & Science College, Mananthavady

To
The Principal
Mary Matha Arts & Science College Mananthavady

Sir,

Sub: Commencement of Certificate course by the Department of Physics Reg.

We are planning to conduct a certificate course in **Non-conventional Energy Resources (Code No. PHYNCER 21-22)**. The total contact hours will be 30 and maximum intake will be limited to 20. The course is intended to cover the basics of Non-Conventional Energy Resources.

I humbly request you to permit the department to conduct the above said course and also request your kind support for the successful completion.

The details are attached for your kind perusal.

Thanking You

Sincerely

Recommended & Forwarded

IQAC Co-ordinator
Mary Matha Arts & Science College
Vemom (P.O), Mananthavady 670645

Dr. S. P. AK
Head & Assistant Professor
Physics
Mary Matha Arts & Science College
Vemom (P.O), Mananthavady 670645



**MARY MATHA ARTS AND SCIENCE COLLEGE
MANANTHAVADY**

Department of Physics

CERTIFICATE COURSE 2021-2022

NON-CONVENTIONAL ENERGY RESOURCES

- Course Duration: 30 hours
- Student Intake: 20

**Course Code:
PHYNCER 21-22**

Dr. Akhila B Edathazhe
Course Co-ordinator

Dr. Sijo A K
HOD, Dept. of Physics

Dr. Maria Martin Joseph
Principal



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Mananthavady

7-10-2021

Dr. Akhila B Edathazhe
Assistant Professor
Department of Physics
Mary Matha Arts & Science College, Mananthavady

To
The Principal
Mary Matha Arts & Science College, Mananthavady

Sir,

Sub: Constitution of BOS reg.

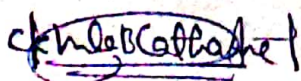
We would like to constitute the Board of Studies for the conduct of Certificate course. Apart from the faculty members of our college we would like to nominate the following faculty members from other colleges.

1. Dr. Suresh T P, Assistant Professor, Department of Physics, Govt. Brennen College, Thalassery
2. Mr. Sreejith T, HOD & Assistant Professor, Department of Physics, Govt. College Mananthavady
3. Dr. Chithra M Mathew, Assistant Professor, Department of Physics, Nirmalagiri College, Kuthuparamba


Kindly do the needful

Thanking You

Sincerely






Dr. Sijo AK
Head & Asst. Professor
Department of Physics
Mary Matha Arts & Science College
Mananthavady



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CONSTITUTION OF THE BOARD OF STUDIES

Board of Studies: Board of Studies shall consist of the following members:

- a) The Chairperson of the Board of Studies who shall be appointed by the Principal from the Department of Physics
- b) Experts of the subject concerned from in and outside the University to be appointed by the Principal

Functions of The Board of Studies: The following shall be the functions of the Board of Studies:

- a) To frame and revise as frequently as necessary the syllabus of the subject concerned shall be the main function of the Board of Studies.
- b) To recommend to the rules, regulations and minimum qualifications required for admission into subject/course concerned.
- c) To prepare/revise panels of paper setters and examiners for valuation, practical and viva-voce.
- d) To prepare model question papers for the subject concerned as and when there is a revision of syllabus.

Board of studies members

Sl.No.	Name	Designation
1	Dr. Akhila B Edathazhe	Assistant Professor & Chairperson of Board of Studies
2	Dr. Sijo A K	Assistant Professor, Member
3	Dr. Suresh T P	Assistant Professor, Member
4	Mr. Sreejith T	Assistant Professor, Member
5	Dr. Chithra M Mathew	Assistant Professor, Member

**PROCEEDINGS OF THE PRINCIPAL, MARY MATHA ARTS & SCIENCE COLLEGE,
MANANTHAVADY, WAYANAD – 670645.**

Sub:- Coll. Edn- Certificate Course - Non Conventional Energy Resources
(Code- PHYNCER 21-22) Board of Studies (BOS) - Sanctioned- orders issued – reg.

Ref:- (1) The College Council meeting held on 01/12/2021.

MMC/CC/2021(7)

DATED: 02.12.2021

ORDER

As per reference cited(1) above the College Council meeting held on 01/12/2021 has decided to approve the Board Of Studies(BOS) of Certificate Course in Non Conventional Energy Resources (Code- PHYNCER 21-22) proposed by the Department of Physics during the Academic year 2021-2022.

Board of Studies for the Certificate Programme is constituted with the following members


Name of the Teacher	Designation	Institution	Remarks
Dr. Akhila B Edathazhe	Assistant Professor	Mary Matha Arts & Science College Mananthavady	Chairman cum Convener
Dr. Sijo A K	Assistant Professor	Mary Matha Arts & Science College, Mananthavady	Member
Mr. Suresh T P	Assistant Professor	Govt. Brennen Colluge Thalassery	Member
Mr. Sreejith T	Assistant Professor	Govt. College Mananthavady	Member
Dr. Chithra M Mathew	Assistant Professor	Nirmalagiri college Koothuparamba	Member

The following shall be the functions of the Board of Studies:

- To frame and periodically revise the syllabus of the certificate course.
- To recommend to the rules, regulations and qualifications required for admission in to the course.
- To prepare/ revise panel of paper setters and examiners for valuation, practical and viva-voce.
- To prepare model question papers for the course.

The Chairman of the BOS is authorized to convene the meeting either in offline or online mode as when required.




Principal
Mary Matha Arts & Science College
P.O. Vemom, Mananthavady 670645



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MINUTES OF BOS MEETING HELD ON 9-12-2021

Members Present,

- | | | | |
|---|------------------------|---|---------------------------|
| 1 | Dr. Akhila B Edathazhe | Assistant Professor & Chairperson of Board of Studies | <i>Akhila B Edathazhe</i> |
| 2 | Dr. Sijo A K | Assistant Professor, Member | <i>Sijo A K</i> |
| 3 | Dr. Suresh T P | Assistant Professor, Member | |
| 4 | Mr. Sreejith T | Assistant Professor, Member | |
| 5 | Dr. Chithra M Mathew | Assistant Professor, Member | |

The following points were discussed and recommended,

1. The syllabus of Certificate course, Non-conventional Energy Resources presented by Dr. Akhila B Edathazhe (Chairperson of Board of Studies).
2. It is decided to conduct the course for 30 Hours and to fix the maximum intake of students as 20.

Akhila B Edathazhe
Chairperson - BOS

SYLLABUS
CERTIFICATE COURSE: NON-CONVENTIONAL ENERGY RESOURCES

COURSE CODE	HOURS	TIME
PHYNCER 21-22	30	3.30-4.30 PM

CO1: Understand conventional and non-conventional energy resources

CO2: Overview of Solar and wind energy technologies

CO3: Understand biomass production, hydropower and tidal Energy

CO4: Outline of fuel cells and super capacitors

UNIT 1 - Conventional and non-conventional energy resources **8 Hrs**

Introduction, India's energy usage, Energy sources, Classification of energy sources, Requirement of non-conventional energy sources

UNIT 2 – Solar and wind energy technologies **9 Hrs**

Solar spectrum, Solar cells, Solar cell construction, Solar cell characteristic and usage, Photo voltaic devices, Properties of wind, accessibility of wind energy in India, Wind machines, Wind machine characteristics and usage

UNIT 3 – Biomass, hydropower and tidal energy **8 Hrs**

Photosynthesis, Biogas production, Biogas plants, Hydropower, Principle of hydropower technology, Tides as energy source, Mechanics of tidal power and its limitations

UNIT 4 – Fuel cells and super capacitors **5 Hrs**

Types of fuel cells and its parts, Working principle of fuel cells, Electrochemical devices, Super capacitors, Working principle of supercapacitors

Books & Reference:

P. D. Dunn, Renewable Energies: Sources, Conversion and Application, P. Peregrinius Ltd, London, 1986.

J. W. Twidell and A. D. Weer, Renewable Energy Sources, ELBS, 2nd Edition, Taylor & Francis, 2006.

S. Rao and B. B. Parulekar, Energy Technology- Non conventional, Renewable and Conventional 3rd Edition, Khanna Pub, 1999.

B.T. Nijaguna, Biogas Technology, New Age International Pub, 2002.



Department of Physics

MARY MATHA ARTS & SCIENCE COLLEGE

MANANTHAVADY

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APPLICATION FORM FOR CERTIFICATE COURSE

Course Applied :

Name (in Block Letters) :

Address :

Phone No :

E-mail :

Department :

Semester :

Reason for selecting this course :

For office use only

The application is verified and found correct.

The candidate is eligible for admission to the course

Course Co-ordinator

H.O.D.

LIST OF STUDENTS ENROLLED AND PASSED**Certificate Course- PHYNCER 21-22**

Sl. No.	Name	Year & Class	Result (Mark obtained)
1	Chaitra M	1 yr Physics	Passed (14)
2	Riya Raj	1 yr Physics	Passed (16)
3	Manjima Manoj	1 yr Physics	Passed (18)
4	Amal K S	1 yr Physics	Passed (13)
5	Anusree M P	2 yr Physics	Passed (15)
6	Johnstanes	2 yr Physics	Passed (17)
7	Chinchu M T	2 yr Physics	Passed (15)
8	Sujith V V	2 yr Physics	Passed (16)
9	Abhinav	2 yr Physics	Passed (18)
10	Aswin P D	2 yr Physics	Passed (13)
11	Abhiram M	3 yr Physics	Passed (15)
12	Sidharth K S	3 yr Physics	Passed (16)
13	Vignesh P. S	3 yr Physics	Passed (17)
14	Anagha Dinesh	3 yr Physics	Passed (14)
15	Anitha P	3 yr Physics	Passed (16)
16	Anusha M Shaji	3 yr Physics	Passed (18)
17	Aparna Sebastian	3 yr Physics	Passed (14)
18	Bhagya Surya P S	3 yr Physics	Passed (13)
19	Bincy David	3 yr Physics	Passed (16)
20	Binitta Scaria	3 yr Physics	Passed (17)

ASSESSMENT PROCEDURE

EVALUATION

ASSESSMENT	WEIGHTAGE
External	80%
Internal	20 %

CONTINUOUS INTERNAL ASSESMENT

Component	Weightage	Remarks
Test Paper	40%	A model exam should be conducted before external examination & considered for internals
Seminar/Viva	40%	
Punctuality	20%	

Attendance Register (Certificate Course PHYNCER 21-22)

No.	Name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	Chaitra M	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2	Riya Raj	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
3	Marilma Maroj	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
4	Amal KS	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
5	Anusree M P	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
6	Johnstanes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
7	Chinchu M T	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
8	Sujith V V	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
9	Abhinav	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
10	Aswin P D	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
11	ABHIRAM M	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
12	SIDHARTH K S	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
13	VIGNESH P. S	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
14	ANAGHA DINESH	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
15	ANITHA P	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
16	ANUSHAM SHAJI	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
17	APARNA SEBASTIAN	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
18	BHAGYA SURYA P S	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
19	BINCY DAVID	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
20	BINITA SCARIA	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Sign.																															

Chaitra M
Course coordinator

Head & Asst. Professor
Department of Physics
Mary Matha Arts & Science College
Vernon P.O., Mananthavady, 670645



MARY MATHA ARTS AND SCIENCE COLLEGE

MANANTHAVADY

No. PHYNCEER 21-22

Vemom PO, Wayanad-670645, Kerala

NAAC Re-accredited with B++ Grade, CGPA 2.85 (III Cycle)

CERTIFICATE

This is to certify that

.....*Riya Raj*.....

successfully completed the certificate course in
.....*Non-conventional Energy Resources*.....

conducted by the Department of

.....*Physics*.....

in the academic year 2021-2022

Chandrasekhar

Course Coordinator

Raj

Head of the Department

Chandrasekhar

Principal



SUMMARY REPORT OF PROGRAM

The certificate course, Non-conventional Energy Resources (PHYNCER 21-22) of 30 hours has conducted and 20 number of students were enrolled in the program. Students were evaluated through external and internal assessment criteria. The hundred percentage of result was attained for the program and course completion certificate has issued.