



|| Jai Sri Gurudev ||
SRI ADICHUNCHANAGIRI FIRST GRADE COLLEGE
CHANNARAYAPATNA-573116
DEPARTMENT OF PHYSICS

To,

The Principal
Sri Adichunchanagiri First Grade College
Channarayapatana – 573116

From,

HoD of Physics
Sri Adichunchanagiri First Grade College
Channarayapatana – 573116


Respected Sir,

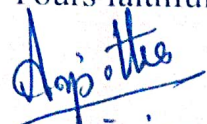
Sub: Requisition for introducing Add-on Course

With respect to the above cited subject, the Department of Physics decided to offer an Add-on course on **Energy sources** in this semester for the academic year 2023-24. We have enclosed the syllabus copy of the add-on course along with this requisition for your kind approval.

Thanking you,

Date: 23/02/2024


Principal
Sri Adichunchanagiri First Grade College
Channarayapatna

Yours faithfully

H.O.D. of Physics
S. A. F. G. College
Channarayapatna-573116

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DEPARTMENT OF PHYSICS

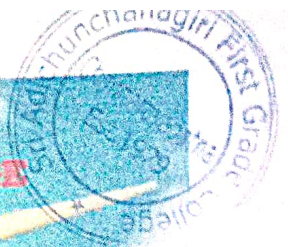
CIRCULAR

It is here bynotified to all the interested students to opt for an Add-on course on “Energy Sources” offered by the Department of Physics in this semester for the academic year 2023-24. Interested candidates must register their name with Arpitha.H.J., Head of the Department of Physics on or before 15th March 2024.

Note: First 30 members will be considered for the course. Certificate will be provided after completion of the course.


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Sri Adichunchanagiri First Grade College
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DEPARTMENT OF PHYSICS

Energy Sources

Course Details :

- Introduction of Energy Sources
- Importance of Renewable and Non-Renewable Sources
- Classification of the Renewable and Non-Renewable Sources

Duration of Course : 30 Hours

Days : 3 days per week

Timings : 9.00 AM to 10.00 AM

Exclusively
for 1st 30
Students of
SAFGC

Hurry up
Limited
Seats

For registration/ enquiry please
contact us at : 973684973

Last date of
Registration : 15-03-2024

Anitha
 HOD of physics
 SAFGC colleges
 Channarayapatna-573116

M. Rajesh M.K

Principal
 Sri Adichunchanagiri First Grade College
 Channarayapatna

॥ JAI SRI GURUDEV ॥
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DEPARTMENT OF PHYSICS



Circular

Date: 05-03-2024

The following faculty members are informed to take classes for Add on courses for the academic year 2023-24 as per the time table attached along with circular and they are instructed to submit the attendance and necessary reports at the end of Semester/ academic year 2023-24.

Sl. No	Faculty Name	Signature
1	Arpitha.H.J	
2	Karthik .S	

Co-ordinator

Principal
Sri Adichunchanagiri First Grade College
- Channarayapatna

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CHANNARAYAPATNA-573116

DEPARTMENT OF Physics

Academic Year 2023-24



Day/Time	9 to 10 AM	College Time table		
Monday	HJA	-	-	-
Tuesday		-	-	-
Wednesday	HJA	-	-	-
Thursday		-	-	-
Friday	K	-	-	-
Saturday		-	-	-

Note: The Time Table is prepared as per direction of Time Table and Examination Committee coordinator.

Apitha
Co-ordinators

Apitha
Time table Coordinator

M. S. Gunathomk
Principal
Sri Adichunchanagiri First Grade College
Channarayapatna



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DEPARTMENT OF PHYSICS

Syllabus

Add on Course: ENERGY SOURCES

Objective of the course:

1. Graduates will demonstrate competence in respective domain as they apply skills to conduct scientific research and contribute to quality education.
2. Graduates will be recognized as experts in educational and research institutes as well as industries in identifying and solving global challenges.
3. Graduates will become leading researchers and professors who create and disseminate new knowledge in scientific and allied fields.

Programme Outcomes (POs):

- PO-1: Discipline Knowledge: Knowledge of science and ability to apply to relevant areas.
PO-2: Problem solving: Execute a solution process using first principles of science to solve problems related to respective discipline.
PO-3: Modern tool usage: Use a modern scientific, engineering and IT tool or technique for solving problems in the areas of their discipline.
PO-4: Ethics: Apply the professional ethics and norms in respective discipline.
PO-5: Individual and teamwork: Work effectively as an individual as a team member in a multidisciplinary team.
PO-6: Communication: Communicate effectively with the stake holders, and give and receive clear instructions.

Mode of Teaching : Regular Mode
Total duration of the course : 30hrs
Fee : Free
Co-ordinator : Arpitha H.J , Department of Physics

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Unit-I Non-Renewable energy sources

Total Hours:30hrs

Chapter-1: Introduction

Energy concept-sources in general, its significance & necessity.
Classification of energy sources: Primary and Secondary energy, Commercial and Non-commercial energy, Renewable and Non-renewable energy, Conventional and Non-conventional energy, Based on Origin-Examples and limitations. Importance of Non-commercial energy resources

4hrs

Chapter-2: Conventional energy sources

Fossil fuels & Nuclear energy- production & extraction, usage rate and limitations. Impact on environment and their issues& challenges. Overview of Indian & world energy scenario with latest statistics- consumption & necessity. Need of eco-friendly & green energy & their related technology

9hrs

Renewable energy sources

Chapter-1: Introduction:

Need of renewable energy, non-conventional energy sources. An overview of developments in Offshore Wind Energy, Tidal Energy, Wave energy systems, Ocean Thermal Energy Conversion, solar energy, biomass, biochemical conversion, biogas generation, geothermal energy tidal energy, Hydroelectricity.

5 hrs

Chapter 2 : Solar energy:

Solar Energy-Key features, its importance, Merits & demerits of solar energy, Applications of solar energy. Solar water heater, flat plate collector, solar distillation, solar cooker, solar green houses, solar cell -brief discussion of each. Need and characteristics of photovoltaic (PV) systems, PV models and equivalent circuits, and sun tracking systems.

8 hrs

Chapter-3 : Geothermal and hydro energy

Geothermal Resources, Geothermal Technologies. Hydropower resources, hydropower technologies, environmental impact of hydro power sources. Carbon captured technologies, cell, batteries, power consumption

4hrs

Reference Books:

1. Non-conventional energy sources - G.D Rai - Khanna Publishers, NewDelhi
2. Solar energy - M P Agarwal - S Chand and Co. Ltd.
3. Solar energy - Suhas P Sukhative Tata McGraw - Hill Publishing Company Ltd.
4. Godfrey Boyle, "Renewable Energy, Power for a sustainable future", 2004, Oxford University Press, in association with The Open University.
5. Dr. P Jayakumar, Solar Energy: Resource Assessment Handbook, 2009
6. J.Balfour, M.Shaw and S. Jarosek, Photovoltaics, Lawrence J Goodrich(USA).

Principal

Sri Adichunchanagiri First Grade College
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Scheme of Evaluation

Assesment is by course work ,which intergrates the following:

- Group Disscusion
- Reading various texts
- Individual powerpoint presentation conversation practices
- Field Work /Experiential Learning Problem Solving Skill

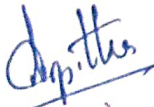
Participation in classroom activities, progress and motivation will account for the overall assessment. A final exam will comprise of written exam and as fallows.

Components	Marks
Attendance	10
Assignment	20
Seminar & Viva	20
Written Examination	50
Total	100

Minimum attendance required is 75% attenadance

Grading System

Percentage of Marks	Grade
95 and above	A++
85 and above	A+
70 and above	A
50 and above	B
35 and above	C


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Add on Course Examination – June/July 2023-24

Energy Sources

Time: 2 Hrs

Max Marks: 50

I Answer any Five of the Following:

5X1=5

1. Define Energy.
2. What are Non-Renewable Sources?
3. Define Tidal Energy.
4. Define Solar Energy.
5. What are Geothermal Resources?

II Answer any Five of the Following Questions:

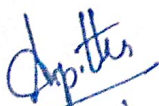
5x5=20


1. Define wind energy? Write the characteristics of Wind Energy?
2. What are Renewable Energy Resources? Write the limitations of Renewable Energy Resources?
3. Explain the Thermal Energy Conversion?
4. Write the importance of Commercial and Non Commercial Energy?
5. Write the Characteristics of Photovoltaic Systems?
6. Explain the Fossil fuels and Nuclear energy?

III Answer any Five of the Following Questions:

10x2=20

1. Explain an overview of Development in offshore wind energy?
2. Write the Applications of Solar energy?
3. Explain the different Electrical machines in turbines?
4. Explain the environmental Impact of hydro power sources.


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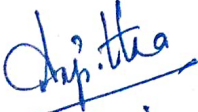
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Channarayapatna-573116


Academic Year 2023-24

ADD ON COURSE: ENERGY SOURCES



Sl. No	Registration No.	Student Name	Assignment	Signature
1	U29QB23S0003	Manya B K	Renewable energy sources	Manya
2	U29QB23S0005	Ganavi S R	Wind and Tidal Energy	Ganavi
3	U29QB23S0012	R B Kumari	Geo thermal Energy	R B Kumari
4	U29QB23S0016	Likhitha J S	Renewable energy sources	Likhitha
5	U29QB23S0018	Preethi Rajpurohit	Wave energy system	Preethi Rajpurohit
6	U29QB23S0021	Suchithra	Renewable energy sources	Suchithra
7	U29QB23S0022	C K Keerthana	Hydrothermal sources	C K Keerthana
8	U29QB23S0023	Nisarga S P	Wind and Tidal Energy	Nisarga S P
9	U29QB23S0026	Sachin C T	Fossil fuel and nuclear energy	Sachin C T
10	U29QB23S0027	Deekshitha C K	Non Renewable Sources	Deekshitha C K
11	U29QB23S0028	Tanuja M P	Geo thermal Energy	Tanuja M.P.
12	U29QB23S0029	Sanika S	Hydrothermal sources	Sanika S
13	U29QB23S0030	Poornima A G	Wave energy devices	Poornima A.G.
14	U29QB23S0033	Divya	Non Renewable Sources	Divya
15	U29QB23S0034	B R Ananya	Wave energy system	B R Ananya
16	U29QB23S0035	Pavithra S D	Ocean thermal Energy	Pavithra S D
17	U29QB23S0036	Nisarga D P	Solar energy sources	Nisarga D.P.
18	U29QB23S0037	Sinchana G N	Geo thermal Energy	Sinchana G N
19	U29QB23S0038	Thriveni S M	Application of energy source	Thriveni S M
20	U29QB23S0039	Dhanyashree	Hydro electricity	Dhanyashree
21	U29QB23S0040	Nikhil P K	Hydro power resources	Nikhil P K
22	U29QB23S0041	Moulya S K	Solar energy sources	Moulya S K
23	U29QB23S0042	Sushma	Application of energy source	Sushma
24	U29QB23S0044	Pallavi	HydroPower Technologies	Pallavi
25	U29QB23S0045	M V Manjunatha	Wind Turbines	M V Manjunatha
26	U29QB23S0046	Rakshitha	Solar energy sources	Rakshitha
27	U29QB23S0047	H N Shiva Shankara	Hydro electricity	H N Shiva Shankara
28	U29QB23S0049	Manasa C V	Hydro electricity	Manasa C.V.
29	U29QB23S0050	Ananya	Hydro power resources	Ananya
30	U29QB23S0054	Chandanashree	Ocean thermal Energy	Chandanashree


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Channarayapatna

REGISTER OF ATTENDANCE & FEES

Name of the Institute

Sri Adhunchanager First Grade College

Add on Course → Energy Sources.
FOR THE MONTH OF

PM BSE

Place Channarayana

2023-2024



Sl. No.	Admission No.	NAMES	Date																														
			01/03	02/03	03/03	04/03	05/03	06/03	07/03	08/03	09/03	10/03	11/03	12/03	13/03	14/03	15/03	16/03	17/03	18/03	19/03	20/03	21/03	22/03	23/03	24/03	25/03	26/03	27/03	28/03	29/03	30/03	31/03
1		Manga B K	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	
2		Garudh S R	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	
3		Kumar R B	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	
4		Lakshmi J S	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	
5		Poothi Rappanahel	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	
6		Sudhitha	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	
7		Keethana C K	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	
8		Nisranga S P	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	
9		Sachin C T	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	
10		Deekshitha C K	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	
11		Tanuja M P	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	
12		Santha S	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	
13		Pearvima A G	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	
14		Divya	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	
15		B K Ananya	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	
16		Sauvithra S D	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	
17		Nisarga D P	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	
18		Senchalra G N	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	
19		Devini S M	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	
20		Dhanuashree	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	
21		Nikhil P K	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	
22		Mealya S K	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	
23		Sushma	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	
24		Pallavi	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	
25		M V Rajunatha	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	
26		Manasa C V	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	
27		Ananya	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	
28		Chaidanashree	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	

HEAD of the Department of PHYSICS
SAG College, C.R. Patna-73116

Number present M
Daily E

Initial M
E

Initials of students: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

*to be not at the beginning of month.

No. of Working days

Average Attendance during the

Principal during month
Sri Adhunchanager First Grade College



|| Jai Sri Gurudev ||

Sri Adichunchanagiri Shikshana Trust (R.)

Sri Adichunchanagiri First Grade College

Channarayapatna - 573116, Hassan Dist.,

(Affiliated to University of Mysore)


(Re-Accredited with 'B+' Grade by NAAC)

CERTIFICATE OF COMPLETION

This is to certify that Ms./Mr. Pavithra.S.D.....has
Successfully completed the **add on course** entitled **Energy Sources**
of 30 hours duration organized by Department of Physics in the
academic year 2023-24.


Course Coordinator


IQAC Co-ordinator


Principal
Sri Adichunchanagiri First Grade College
Channarayapatna