5.1 Student-Faculty Ratio (SFR) (20)

No. of UG Programs in the Department:1

Electrical and Electronics Engineering						
	CAY		**CAYm1**		**CAYm2**	
	(2024-25)		**(2023-24)**		**(2022-23)**	
Year of Study	**Sanction Intake**	**Actual admitted through lateral entry students**	**Sanction Intake**	**Actual admitted through lateral entry students**	**Sanction Intake**	**Actual admitted through lateral entry students**
2nd Year	30	3	30	1	30	3
3rd Year	30	1	30	3	30	3
4th Year	30	3	30	3	60	3
Sub-Total	**90**	**7**	**90**	**7**	**120**	**9**
Total	**97**		**97**		**129**	

Student Faculty Ratio (SFR):
No. of UG Programs in the Department: 1
No. of UG Programs in the Department: 0

Description	**CAY(2024-25)**	**CAYm1 (2023-24)**	**CAYm2 (2022-23)**
Total No. of Students in the Department(S)	97 **Sum total of**	97 **Sum total of**	129 **Sum total of**
	all (UG+PG) students	**all (UG+PG) students**	**all (UG+PG) students**
No. of Faculty in the Department(F)			
	9 **F1**	8 **F2**	6 **F3**
Student Faculty Ratio(SFR)			
	10.78 **SFR1=S1/F1**	12.13 **SFR2=S2/F2**	21.50 **SFR3=S3/F3**
Average SFR	14.80 **SFR=(SFR1+SFR2+SFR3)/3**		
F=Total Number of Faculty Members in the Department (excluding first year faculty)			

5.1.1. Provide the information about the regular and contractual faculty as per the format mentioned below:

	Total number of regular faculty in the department	**Total number of contractual faculty in the department**
CAY(2024-25)	9	0
CAYm1(2023-24)	8	0
CAYm2(2022-23)	6	0

Average SFR for three assessment years: 14.80
Assessment SFR: 20

5.2 Faculty Cadre Proportion (25)

	Professors		**Associate Professors**		**Assistant Professors**	
Year	**Required F1**	**Available**	**Required F2**	**Available**	**Required F3**	**Available**
CAY(2024-25)	1	1	1	0	3	8
CAYm1(2023-24)	1	1	1	0	3	7
CAYm2(2022-23)	1	0	1	0	4	6
Average Numbers	**1**	**0.67**	**1**	**0**	**3.33**	**7**

Cadre Ratio Marks [(AF1 / RF1) + [(AF2 / RF2) * 0.6] + [(AF3 / RF3) * 0.4]] * 12.5 : 23.00

5.3 Faculty Qualification (25)

	X	Y	F	FQ = 2.5 x [(10X + 4Y) / F)]
2024-25(CAY)	1	8	4	**26.25**
2023-24(CAYm1)	1	7	4	**23.75**
2022-23(CAYm2)	0	6	6	**10**

Average Assessment : 20.00

5.4. Faculty Retention (25)

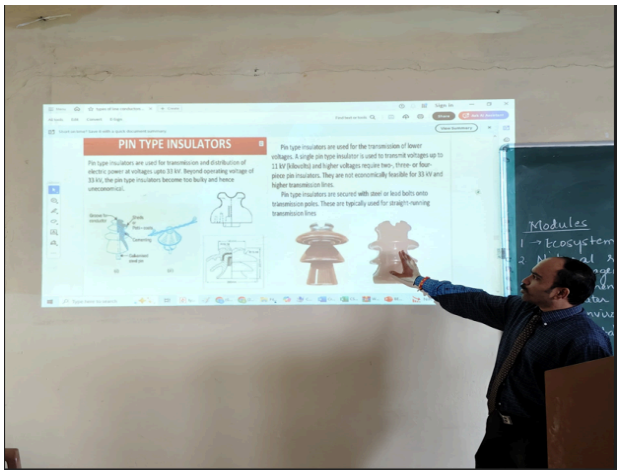
Description	2023-24	2024-25
No of Faculty Retained	4	4
Total No of Faculty	6	6
% of Faculty Retained	**67**	**67**

5.5 Innovations by the Faculty in Teaching and Learning

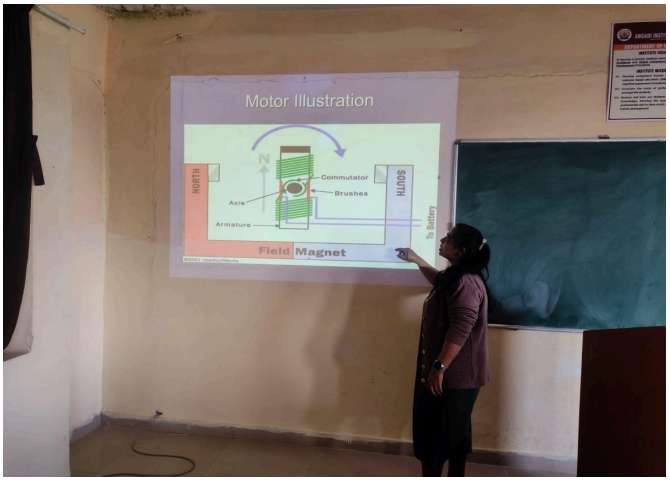
Innovative teaching and learning process is required for students to understand the curriculum. This helps in bridging the gap between the curriculum and the Industry.

1.Multimedia Learning Process:
The faculties are using multimedia elements LCD projectors in the Classroom. It will help the faculties to represent the content in a more meaningful way using different media elements.

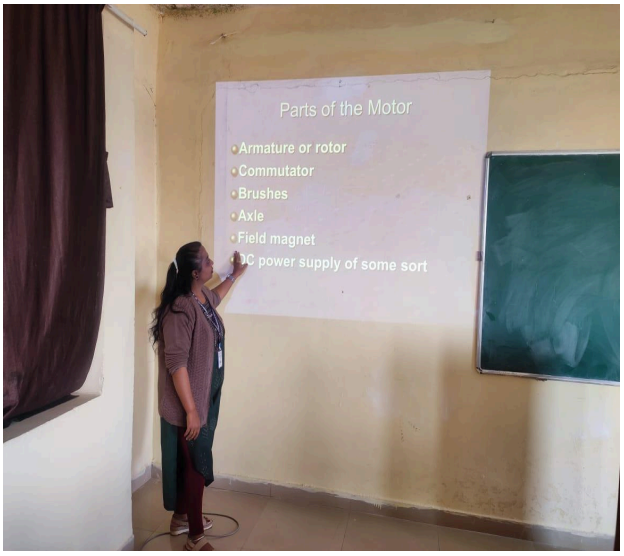
2.ICT
Each subject, the slides are created with animations. For certain topics videos is shown and then the teaching is continued to provide a realistic overview and better understanding.

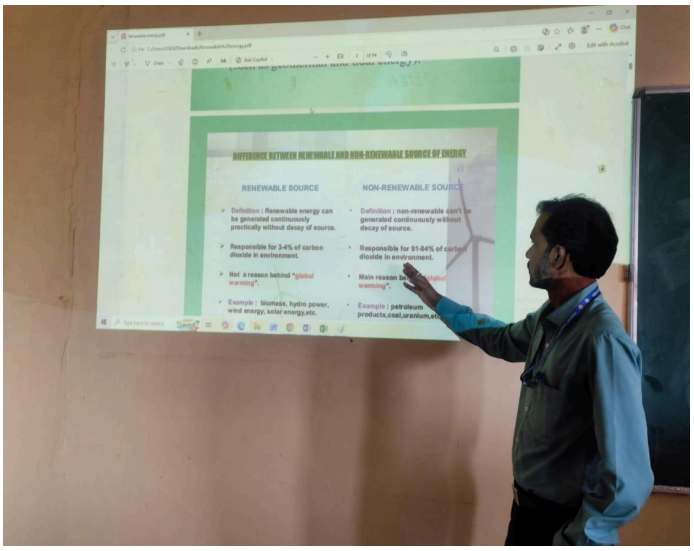


(a)



(b)


Parts of the Motor
Armature or rotor
Commutator
Brushes
Axle
Field magnet
DC power supply of some sort


DIFFERENCE BETWEEN RENEWABLE AND NON-RENEWABLE SOURCE OF ENERGY
RENEWABLE SOURCE
NON-RENEWABLE SOURCE

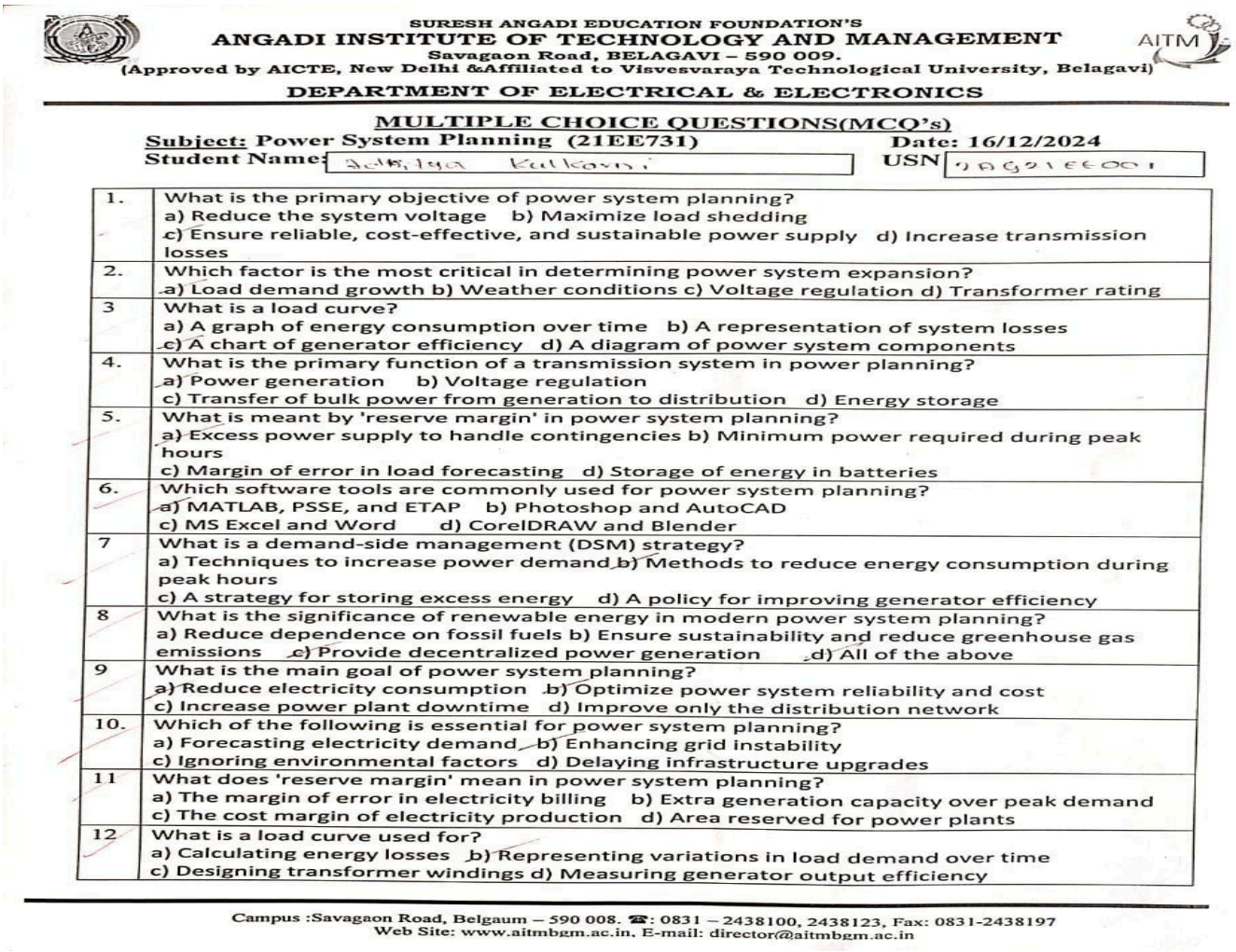
(c) (d)


History of Control System
300 BC
1900's
2000's
Early
20th Century
Contemporary
Widespread applications
Navigation
Entertainment
Smart Homes
Military
Space Application
Chemical Process

(e)

3.Quiz

The Quiz is used as an assessment tool to improve the instructional methods and student feedback through the teaching and learning process. They learn to work in a team..



SURESH ANGADI EDUCATION FOUNDATION'S
ANGADI INSTITUTE OF TECHNOLOGY AND MANAGEMENT
Savagaon Road, BELAGAVI – 590 009.
(Approved by AICTE, New Delhi &Affiliated to Visvesvaraya Technological University, Belagavi)
DEPARTMENT OF ELECTRICAL & ELECTRONICS

MULTIPLE CHOICE QUESTIONS(MCQ's)

Subject: Power System Planning (21EE731) **Date:** 16/12/2024

Student Name: Adithya Kulkarni **USN** 1AG21EE001

1.	What is the primary objective of power system planning? a) Reduce the system voltage b) Maximize load shedding c) Ensure reliable, cost-effective, and sustainable power supply d) Increase transmission losses
2.	Which factor is the most critical in determining power system expansion? a) Load demand growth b) Weather conditions c) Voltage regulation d) Transformer rating
3	What is a load curve? a) A graph of energy consumption over time b) A representation of system losses c) A chart of generator efficiency d) A diagram of power system components
4.	What is the primary function of a transmission system in power planning? a) Power generation b) Voltage regulation c) Transfer of bulk power from generation to distribution d) Energy storage
5.	What is meant by 'reserve margin' in power system planning? a) Excess power supply to handle contingencies b) Minimum power required during peak hours c) Margin of error in load forecasting d) Storage of energy in batteries
6.	Which software tools are commonly used for power system planning? a) MATLAB, PSSE, and ETAP b) Photoshop and AutoCAD c) MS Excel and Word d) CorelDRAW and Blender
7	What is a demand-side management (DSM) strategy? a) Techniques to increase power demand b) Methods to reduce energy consumption during peak hours c) A strategy for storing excess energy d) A policy for improving generator efficiency
8	What is the significance of renewable energy in modern power system planning? a) Reduce dependence on fossil fuels b) Ensure sustainability and reduce greenhouse gas emissions c) Provide decentralized power generation d) All of the above
9	What is the main goal of power system planning? a) Reduce electricity consumption b) Optimize power system reliability and cost c) Increase power plant downtime d) Improve only the distribution network
10.	Which of the following is essential for power system planning? a) Forecasting electricity demand b) Enhancing grid instability c) Ignoring environmental factors d) Delaying infrastructure upgrades
11	What does 'reserve margin' mean in power system planning? a) The margin of error in electricity billing b) Extra generation capacity over peak demand c) The cost margin of electricity production d) Area reserved for power plants
12	What is a load curve used for? a) Calculating energy losses b) Representing variations in load demand over time c) Designing transformer windings d) Measuring generator output efficiency

Campus :Savagaon Road, Belgaum – 590 008. ☎: 0831 – 2438100, 2438123, Fax: 0831-2438197
Web Site: www.aitmbgm.ac.in, E-mail: director@aitmbgm.ac.in

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DEPARTMENT OF ELECTRICAL & ELECTRONICS

13	Which type of energy is prioritized in sustainable power planning? a) Renewable energy b) Fossil fuels c) Nuclear energy only d) Coal-fired plants
14	What is demand-side management (DSM)? a) Increasing power generation during peak hours b) Reducing or shifting electricity demand c) Creating storage systems for demand surplus d) Decreasing voltage to manage demand
15	Why is environmental impact assessment necessary in power planning? a) To reduce construction costs b) To ensure compliance with legal regulations and sustainability c) To delay renewable integration d) To increase energy wastage
16	What is the role of a transmission network in power planning? a) Deliver power directly to consumers b) Transfer electricity from generation to distribution systems c) Provide backup power during outages d) Control load scheduling
17	What challenges arise when integrating renewable energy into the power system? a) Variability in energy output b) High initial costs c) Need for energy storage systems d) All of the above
18	What is the importance of load forecasting in power system planning? a) It reduces the need for power generation b) It ensures adequate power supply for future demand c) It delays infrastructure upgrades d) It eliminates power losses
19	What challenges arise when integrating renewable energy into the power system? a) Variability in energy output b) High initial costs c) Need for energy storage systems d) All of the above
20	The topmost conductor in hv transmission line is a) B-phase conductor b) Y- phase conductor c) R- phase conductor d) Earth conductor

17/20

Flipped Classroom (FC) :

FLIP stands for:

F: Flexible environment

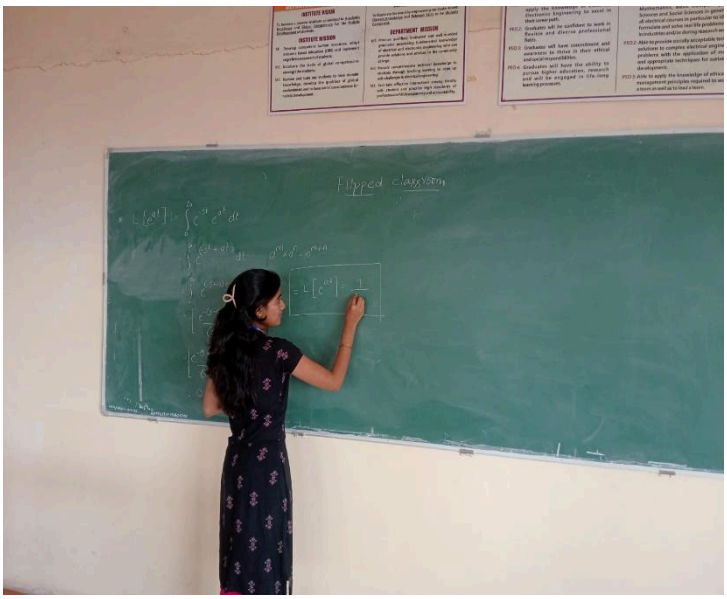
L: Learning Culture

I: Intentional Content

P: Professional Educator

A flipped classroom is an instructional and ambivalent strategy, and a type of blended learning that reverses the traditional learning environment. It moves activities, including those that may have traditionally been considered homework, into the classroom. With a flipped classroom, students watch online lectures and collaborate in discussions, while actively engaging concepts in the classroom, with guidance of faculty.

Flipped Classroom teaching Strengthens team-based skills, encourages engagement and attendance promotes higher level classroom discussion



Flipped Class

Project based Learning (PBL) :

The students are encouraged to carry out mini projects and capstone projects under the guidance of faculty. Further, students of first year and second year are encouraged to do mini projects /hobby projects to make them comprehend the theoretical aspects taught in the classrooms. The annual project exhibition is conducted every year to showcase their projects, and to encourage students to have interactions with their juniors, peers and senior students.

Students Demonstrating Projects

Industrial Visit:

Industrial Visit to Varahi Underground Power House Hosangadi Udupi

The Department of Electrical and Electronics Engineering. Angadi Institute of Technology & Management, Belagavi, Organized Industrial visit for 5th and 7th semester students to Varahi Underground Power House, Hosangadi Udupi on 29/11/2024. An industrial visit to the Karnataka Power Generation House was organized for Electrical and Electronics Engineering students to gain practical insights into power generation, distribution and the operational intricacies of a power plant. This visit served to bridge the gap between theoretical knowledge and real-world application and enhancing students to understand the power engineering concepts.

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Accredited by NAAC

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Visit to Varahi Underground Power House Hosangadi Udupi

Technical Talk

On June 22nd 2022 the technical talk was conducted for students on "Electrical Transmission Network" and the resource person was Dr. Shivappa. Sobarad Assistant Engineer O&M Substation GESCOM Munirabad. Dr. Shivappa. Sobarad Explained to the students about the working process of Electrical Transmission in the substation.

Experiential Learning (EL)

Experiential Learning is an engaged learning process whereby students learn by doing and by reflecting on the experience. Experiential Learning aims at recognizing and encouraging spontaneous opportunities for learning, engagement with challenging situations, experimentation, and discovery of solutions. Some forms of experiential learning include Internships, industrial visits, out-of-classroom community service experiences/projects (AICTE activity).

Green Energy Club Activity

The Green Energy Club aims to promote awareness, innovation, and practices related to sustainable and renewable energy among students and the community.

Details of innovative teaching methods adopted for few subjects are listed in the below table 5.5 (i)

Table 5.5(i): Innovative teaching methods adopted for few subjects

Sl.No	Sem	Subject	Faculty	Innovation Method
1	1	Basic Electrical Engineering	Prof. Rajendra G	PPT and Kit
2	6	Renewable Energy Sources	Prof. Kantesh D C	Models: Solar and Wind application models
3	1	Elements of Electrical Engineering	Prof. Rajendra G	PPT ,Measurement and testing of Electrical parameters with Multimeter
4	1	Renewable Energy Sources	Prof. Kantesh D C	PPT and Working Model Display
5	4	Electric Motors	Prof. Vinaychandrika K	PPT and Cut Sections

5.5 (i) (a) Cut Section of DC Shunt Motor

(b)Cut Section of AC Synchronous Motor

(c) Cut Section of 3 Phase AC Squirrel Cage Induction Motor

(d) DIN T/F

e. Solar Panel

d. Voltage HRC Fuse

E-content facility provided by faculties are listed in the below table

Faculty Name	Courses	Link Details
Prof. Kantesh D C	Signals and Systems	https://youtu.be/8xbfqxnNlZE
	High Voltage Engineering	https://youtu.be/ryeRXrfGXxE
	Electromagnetic Field Theory	https://youtu.be/d9qUyRLPdIA
Prof. Rajendra G	Power System Protection	https://youtu.be/6w1Y_SAkdno
		https://youtu.be/knvvsqcdnJ0
		https://youtu.be/YvJrAKF1fXo
	Basic Electrical Engineering	https://youtu.be/aX_HbTFFfxU?list=PLKbleAZbXsES7-ohjD6v9GvWjWpCv4wfL
Prof. Vinayachandrika K	Digital System Design	https://youtu.be/xnD8y7YCWMY
		https://youtu.be/77L4kQYjjrs
		https://youtu.be/gXdQ3btwhek
Prof. B.N. Patil	Basic Electrical Engineering	https://youtu.be/BBplBESvGTw
		https://youtu.be/HL7UllDxgDU
		https://youtu.be/c7_rjyEBiTM
Prof.Alok Kulkarni	Utilization of Electric Power	https://youtu.be/bczj7qb6CDE https://youtu.be/E50YUwBkBoA
Prof.Santosh Raikar	Basic Electrical Engineering	https://youtu.be/J48mgNnclus https://youtu.be/6L64sYkRoJ4

5.6 Faculty as participants in Faculty development/training activities/STTPs

Name of the faculty	Max 5 Per Faculty		
	2023-24 (CAYm1)	2022-23 (CAYm2)	2021-22 (CAYm3)
Mr.Kantesh D C	5	0	5
Mr. Rajendra Ghivari	0	5	5
Miss Vinayachandrika Kale	5	0	5
Mrs. Kiran Veergoudar	5	5	0
Dr. G. R Udupi	5	5	0
Mr.Vinay Pattanshetti	5	0	0
Mr. Peer Mohammad Kolakar	5	5	5
Dr. B.N. Patil	0	0	0
Mr. Ramesh Ashtekar	5	0	0
Mrs. Avanti J, Patil	5	5	0
Mrs. Savita Bani	0	5	0
Mr. Anilkumar Korishetti	0	0	0
Sum	40	30	20

RF = Number of Faculty required to comply with 20:1 Student Faculty Ratioas per 5.1	4.85	4.85	6.45
Assessment [3*(Sum / 0.5RF)]	**49.48**	**37.11**	**18.6**

Average assessment over 3 years: 35.06

5.7 Research and Development

5.7.1 Academic Research

Faculty Publication Details:

Name of the Faculty	**Publications**		
	2024-2025	**2023-2024**	**2022-2023**
Prof. Kantesh D C	2	-	-
Prof. Vinay Pattanshetty	1	-	-
Prof. Vinaychandrika Kale	1	-	-

The details of academic research are shown in table 5.7.1

Sl. No.	**Faculty Name**	**Title**	**Name of the Journal/ Publisher**	**Web link**	**Impact Factor**
1	Prof.Vinay Pattanshetti	Recycling Plastic Bottles into Sustainable 3D Printing Filament and Electrical Insulator Material	IRJMETS	https://www.irjmets.com/paperdetail.php?paperId=91250e86f32df2f9067db65cbccd9204 (https://www.irjmets.com/paperdetail.php?paperId=91250e86f32df2f9067db65cbccd9204)	8.187
2	Prof.Kantesh D C	Solar Biomass Hybrid Dryer for	IRJMETS	https://www.irjmets.com/paperdetail.php?paperId=479721a6480ba1aad158d6094b01f78e (https://www.irjmets.com/paperde	8.187

		Farmers and Rural Community		tail.php?paperId=479721a6480ba1aad158d6094b01f78e)	
3	Prof.Vinaychandrika Kale	Design and Development of Walkin Type Hemi Cylindrical Solar Tunnel Dryer for Industrial Use	IRJMETS	https://www.irjmets.com/upload_newfiles/irjmets70600123599/paper_file/irjmets70600123599.pdf (https://www.irjmets.com/upload_newfiles/irjmets70600123599/paper_file/irjmets70600123599.pdf)	8.187
4	Prof.Kantesh D C	Design and Development of Pyramid Solar Still Using Phase Changing material	IJSRET	2025/Volume:11/Issue:3	3.241

IRJMETS
e-ISSN: 2582-5208
International Research Journal of Modernization in Engineering Technology and Science
(Peer-Reviewed, Open Access, Fully Refereed International Journal)
Volume:07/Issue:05/May-2025 Impact Factor- 8.187 www.irjmets.com

RECYCLING PLASTIC BOTTLES INTO SUSTAINABLE 3D PRINTING FILAMENT AND ELECTRICAL INSULATOR MATERIAL

Sandesh Mantri*1, Aman Wakilkar*2, Shivabasayya Mathad*3, Deepthi Kurbet*4, Vinay Pattanshetti*5

*1,2,3,4,5Angadi Institute Of Technology And Management Electrical & Electronics Engg, Visvesvaraya Technological University Savagaon Road, Belagavi, India.

DOI: https://www.doi.org/10.56726/IRJMETS77720

ABSTRACT

Plastic waste has become a critical environmental concern due to its non-biodegradable nature and increasing accumulation. This study presents the design and fabrication of a compact, low-cost plastic recycling machine aimed at addressing plastic pollution through small-scale, localized recycling. A review of literature highlights mechanical recycling as a widely adopted, cost-effective method, with initiatives like Precious Plastic demonstrating practical community-level solutions. The main objectives were to design an efficient recycling machine, fabricate it using locally available materials, and evaluate its performance in processing common plastic types such as LDPE and PET. The methodology included CAD-based design, fabrication of a shredder, extruder, and mold, followed by testing the machine's capacity, energy use, and quality of output. Results showed that the machine could shred and extrude up to 5 kg of plastic per hour, with consistent operating temperatures between 180°C and 220°C, producing uniform filaments and molded items. The project concluded that this machine provides an effective, affordable, and accessible means for small communities and institutions to manage plastic waste and support circular economy initiatives. Improvements in automation and safety features could further enhance its usability and efficiency.

Keywords: Electrical Insulator, Filament Extrusion LDPE (Low Density Polyethene), PET (Polyethylene Terephthalate) 3D Printing Filament.

I. INTRODUCTION

Recycling plastic bottles into sustainable 3D printing filament and electrical insulator material presents an innovative solution to two pressing global challenges: plastic pollution and the need for eco-friendly manufacturing resources. Plastic bottles, primarily composed of PET (Polyethylene terephthalate) and LDPE (Low density polyethene), are abundant waste materials that hold great potential for upcycling into valuable products. This project aims to transform discarded plastic bottles into high-quality 3D printing filament and functional electrical insulators. By leveraging accessible recycling and extrusion technologies, we can create materials suitable for diverse applications, including prototyping, low-voltage electrical components, and sustainable consumer products. Recycled PET , LDPE -based filaments offer strength, flexibility, and thermal stability, while also serving as effective electrical insulators due to their inherent dielectric properties. With appropriate processing and additive enhancements, these recycled materials can meet both mechanical and electrical performance standards.

II. METHODOLOGY

- Collection & Sorting: Gather discarded PET and LDPE bottles; remove labels and contaminants.
- Cleaning: Wash and dry plastics to eliminate dirt and moisture.
- Shredding: Shred cleaned bottles into small, uniform flakes.
- Extrusion: Melt shredded plastics:
- Melt the PET-LDPE mixture at 90-100°C using a heated screw system and specialized nozzles.
- Filament/Insulator Formation: Shape PET into filament; mold LDPE into low-voltage insulators.
- Quality Control: Sensors monitor filament diameter; automated adjustments ensure consistency.

Academic Research Details:

The details of academic research are shown in table 5.7.1

Sl.No	Faculty Name	Title	Name of the Journal/Publisher	Web link	Impact Factor
1	Prof.Vinay Pattanshetti	Recycling Plastic Bottles into Sustainable 3D Printing	IRJMETS	https://www.irjmets.com/paperdetail.php?paperId=91250e86f32df2f9067db65cbccd9204	8.187

		Filament and Electrical Insulator Material			
2	Prof.Kantesh D C	Solar Biomass Hybrid Dryer for Farmers and Rural Community	IRJMETS	https://www.irjmets.com/paperdetail.php?paperId=479721a6480ba1aad158d6094b01f78e	8.187
3	Prof.Vinaychandrika Kale	Design and Development of Walkin Type Hemi Cylindrical Solar Tunnel Dryer for Industrial Use	IRJMETS	2025/Volume:07/Issue:05	8.187
4	Prof.Kantesh D C	Design and Development of Pyramid Solar Still Using Phase Changing material	IJSRET	2025/Volume:11/Issue:3	3.241

5.7.2 Sponsored Research
2023-2024

SL.NO	Project Title	Duration	Funding Agency	Amount
1	Step Solar Still	12 Months	K-Tech NAIN	2,25,000
2	Design and fabrication of Box Type of Solar Cooker	12 Months	K-Tech NAIN	2,00,000
3	Design and Fabrication of Improvised Parabolic Trough	12 Months	K-Tech NAIN	2,10,000

Angadi Institute of Technology and Management, Belagavi

No.	Project	KITS Approved Grants (in INR)
1	Automatic Waste Segregation Technology	2,72,500.00
2	Design And Fabrication Of Magnetic Levitating Frictionless Windmill	1,75,000.00
3	STEP SOLAR STILL	2,25,000.00
4	AGRONE: UAV system for detecting multiclass plant diseases using ML algorithms	2,00,000.00
5	Self Automated Drone for Patrolling	2,37,500.00
6	Unified re vendo-matic	2,25,000.00
7	IOT Based Eco-friendly Effective Nutritious Crop Management System	2,32,500.00
8	Design and Fabrication of Box Type Solar Cooker	2,00,000.00
9	Automated Cashew Sorting	2,15,000.00
10	Design and Fabrication of Improvised Parabolic trough with dual receiver for hot water and food cooking	2,10,000.00
	Total approved grant	21,92,500.00

Archana 31-07-2024
General Manager A&A
KITS
General Manager (Admin & Accounts)
Karnataka Innovation and Technology Society (KITS)
Department of IT, BT and S&T
Government of Karnataka

The K-Tech NAIN funded projects focus on the design and fabrication of solar thermal systems such as solar stills, solar cookers, and parabolic trough collectors to promote sustainable and renewable energy applications. These projects provide hands-on research and innovation opportunities for students, encouraging practical problem-solving, prototype development, and performance analysis using eco-friendly and cost-effective solutions. The initiatives strengthen the institution's research culture, support student innovation and entrepreneurship.

2024-2025 (CAY)

SL.NO	Project Title	Duration	Funding Agency	Amount
1	Recycling Plastic Bottles Into Sustainable 3d Printing Filament And Electrical Insulator Material	6 months	KSCST	6500.00
2	Design And Development Of A Pyramid Solar Still Using Phase	6 months	KSCST	5500.00

	Change Material As Storage Medium			
3	Solar Biomass Hybrid Dryer For Farmers And Rural Community	6 months	KSCST	6000.00
4	Improved Biomass Cook Stove For Rural And Mountainous	6 months	KSCST	5000.00

ಕರ್ನಾಟಕ ರಾಜ್ಯ ವಿಜ್ಞಾನ ಮತ್ತು ತಂತ್ರಜ್ಞಾನ ಮಂಡಳಿ
(ಸಂಪುಟ ದರ್ಜೆಯ ಸಚಿವರ ಅಡಿಯಲ್ಲಿ ಸ್ವಾಯತ್ತ ಸಂಸ್ಥೆಯಾಗಿ ಕಾರ್ಯನಿರ್ವಹಿಸುತ್ತಿರುವ ವಿಜ್ಞಾನ ಮತ್ತು ತಂತ್ರಜ್ಞಾನ ಕುರಿತ ಸಂಸ್ಥೆ)

Karnataka State Council for Science and Technology
(An autonomous organisation under Dept. of Science and Technology, Government of Karnataka)

Dr. U T Vijay
Executive Secretary

Ref: 7.1.01/SPP/713

14th March, 2025

To,
The Principal
Angadi Institute of Technology and Management
Savagaon Road
Belagavi - 590 009.

Dear Sir/Madam,

Sub : Sanction of Student Project - 48th Series: Year 2024-2025

Project Proposal Reference No. : 48S_BE_4497
Ref : Project Proposal entitled **IMPROVED BIOMASS COOK STOVE FOR RURAL AND MOUNTAINOUS**

We are pleased to inform you that your student project proposal, referred above, has been approved by the KSCST under "Student Project Programme - 48th Series". The project details are as follows:

Student(s)	Ms. PRERANA PANCHAKATTIMATH Ms. SRUSHTI MAGI Mr. BHALCHANDRA SUGATE Mr. SHASHANK GADAD	**Department**	ELECTRICAL AND ELECTRONICS ENGINEERING
Guide(s)	Prof. KANTESH D C	**Sanctioned Amount (in Rs.)**	5,000.00

Instructions:

a) The project should be conducted based on the objectives outlined in the submitted proposal.
b) Any changes to the project title, objectives, or student team will result in the project's rejection, and your institution will be required to return the sanctioned funds to KSCST.
c) Please include the project reference number printed above in all future correspondence.
d) Upon project completion, a 2-3 page synopsis (in MS Word format) must be uploaded to the following Google Forms link: https://forms.gle/EqAUv7AwPXqAjveTA. The synopsis should include following:
   1) Project Reference Number
   2) Title of the project
   3) Name of the College & Department
   4) Name of the students & Guide(s)
   5) Keywords
   6) Introduction / background (with specific reference to the project, work done earlier, etc) - approximately 20 lines
   7) Objectives (approximately 10 lines)

Indian Institute of Science Campus, Bengaluru - 560012
office.kscst@iisc.ac.in, office@kscst.org.in
080-23341652, 23348848/49/40
https://kscst.karnataka.gov.in & https://www.kscst.org.in

48S_BE_4497

8) Methodology (approximately 20 lines on materials, methods, details of work carried out, including drawings, diagrams etc)
9) Results and Conclusions (approximately 20 lines with specific reference to work carried out)
10) Scope for future work (approximately 20 lines).

e) In case of incompeted projects, the sanctioned amount must be returned to KSCST.
f) The sanctioned amount will be transferred by NEFT to the bank account provided by the College/Institute.
g) The sponsored projects evaluation will be held from the **third week of April 2025** onwards through Online Mode. Details will be communicated shortly via email or website announcement.
h) After project completion, a soft copy of the Project Completion Report (PCR), duly signed by the Principal, the HoD, Guide(s), and student(s), must be uploaded (in a single file .pdf format) to the following Google Forms link: https://forms.gle/bg7d5k4594LFbRQd8. The report should be prepared in the format prescribed by your university/institution. The last date for uploading the PCR is **6th June 2025.**
i) The SPP Co-ordinator / Project guide shall initiate the submission of the Utilization Certificate and Statement of Expenditure, duly signed by the competent authority of consolidated sanctioned projects (all projects sanctioned to the institution in a single UC and SoE) from your institution, must be submitted by **20 August 2025** without fail.

Please visit our website for further announcements / information and for any clarifications please email to spp@kscst.org.in

Thanking you and with best regards,

Yours sincerely,

(U T Vijay)

Copy to:

1) The HoD
ELECTRICAL AND ELECTRONICS ENGINEERING
ANGADI INSTITTUTE OF TECHNOLOGY AND MANAGEMENT, BELAGAAVI

2) Prof. KANTESH D C
ELECTRICAL AND ELECTRONICS ENGINEERING
ANGADI INSTITTUTE OF TECHNOLOGY AND MANAGEMENT, BELAGAAVI

3) THE ACCOUNTS OFFICER
KSCST, BENGALURU

2023-2024 (CAYm1)

SL.NO	Project Title	Duration	Funding Agency	Amount
1	M Shape Low-Cost Solar Still For Rural And Isolated Communities	6 months	KSCST	4000.00
2	Harnessing Wind Energy From Vertical And Horizontal Axis Wind Turbine	6 months	KSCST	4500.00

2022-2023(CAYm2)

SL.NO	Project Title	Duration	Funding Agency	Amount
1	Dual Operating Parabolic Trough Receiver For Food Cooking And Hot Water Generation For Rural Areas	6 months	KSCST	6500.00
2	Design And Fabrication Of Step Solar Oven Using Sensible Heat As Storage Medium For Refugee Camps	6 months	KSCST	5000.00

2021-2022 (CAYm3)

SL.NO	Project Title	Duration	Funding Agency	Amount
1	Step Solor Still: Design Modification In Solar Still And Incorporation Of Phase Changing Material To Increase The Efficiency Of Step Solar Still	6 months	KSCST	6000.00
2	Wireless Charging Lane For Electric Vehicle	6 months	KSCST	7000.00

5.7.3. Development activities

A. Product Development Students & faculties are encouraged to do in-house projects that lead to product development.

The list of products developed by the students and faculties are given in below table 5.7.3(i)

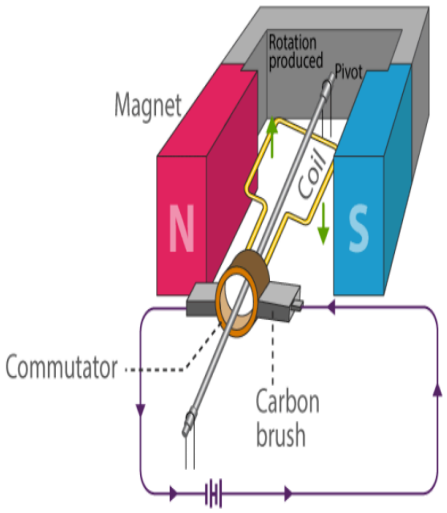
Sl.NO	Product Title	Product Description	Students Name	Faculty name
1	Step Solar Still	Step solar still device which converts saline water to fresh potable water by using solar radiation and this process is called as solar desalination.	Pavan Rathod Darshan Korigeri Mahesh Patil	Prof.Kantesh D C
2	Box Type Solar Cooker	This is a device which is used to cook food in remote and isolated areas		Prof.Rajendra Ghivari
3	Step Solar Oven	This is a device which is similar to solar cooker but the design is made typical to trap more heat inside by using sensible heat storage.	Sagar Patil Omkar Patil	Prof.Kantesh D C

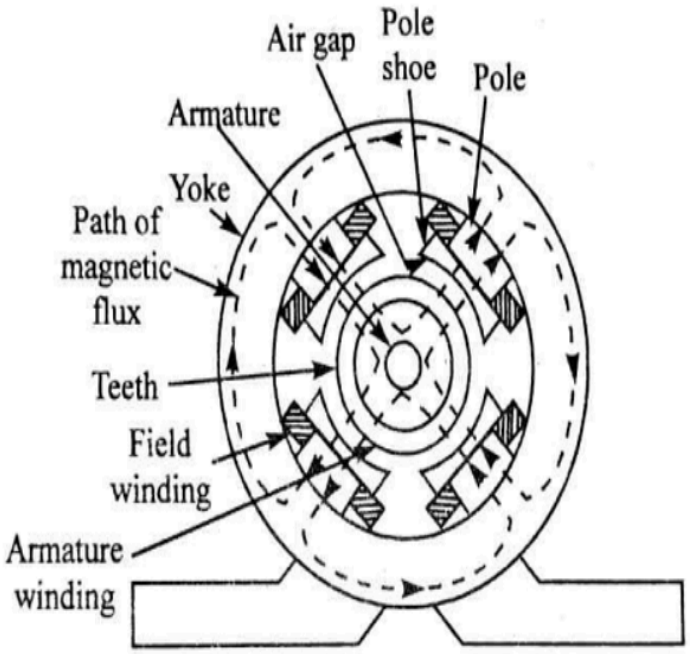
B. Research Laboratories

C. Instructional Materials

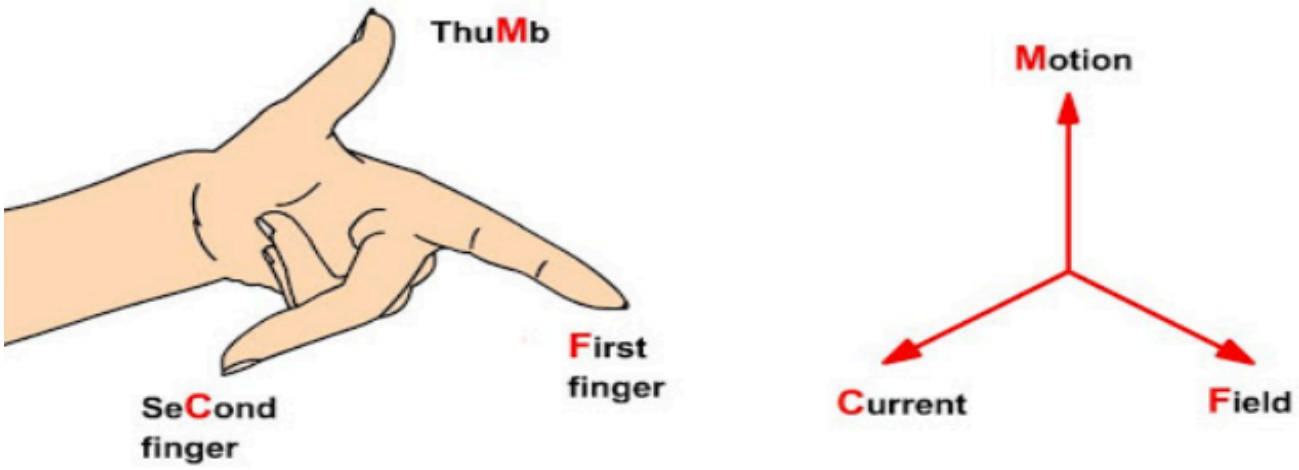
The table 5.7.3(iii) shows the Instructional Materials used in the department.

Sl.NO	Details
1	Lab Manuals
2	Charts

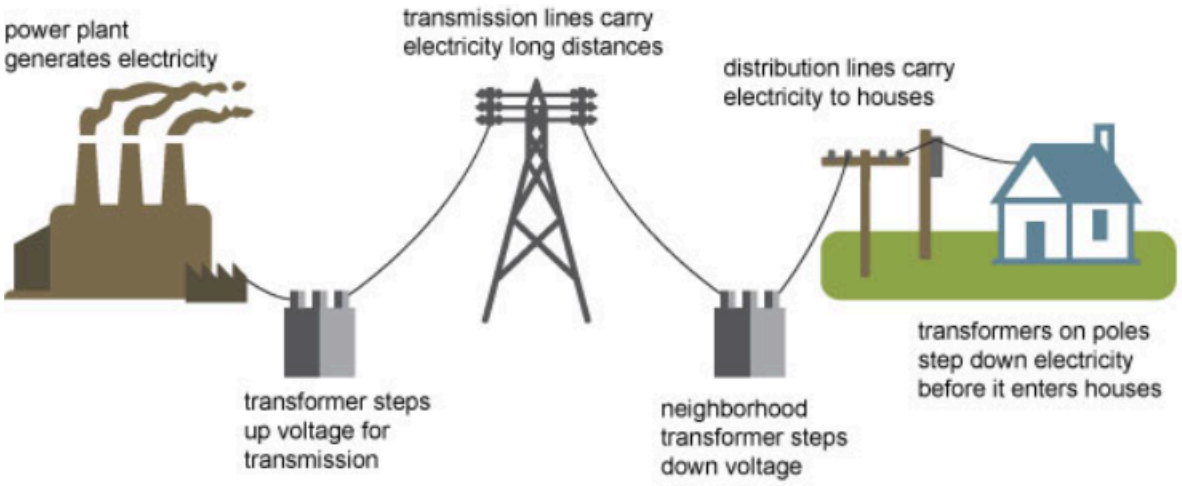




5.7.3(iii) **a. Working Principle of Generator** **b. Construction of DC Motor**

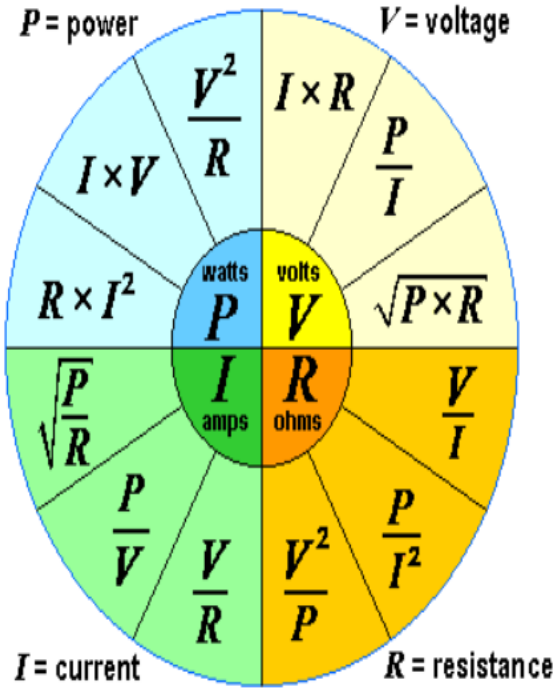


c. Flemings Left Hand Rule

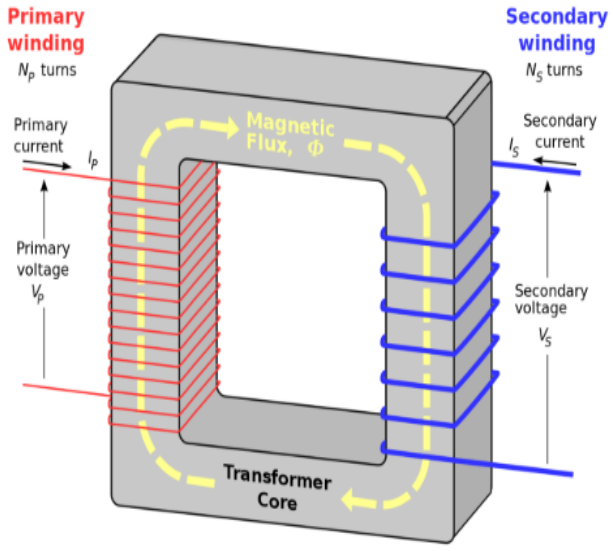


d. Electricity Generation, Transmission and Distribution

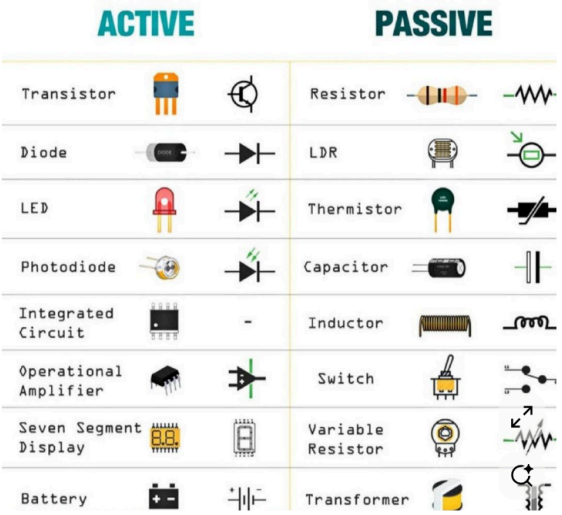
e. Electrical Safety



f. Formula Wheel



g. Single phase Transformer



h. Active and Passive Element

D. Working models/charts/monograms, etc.

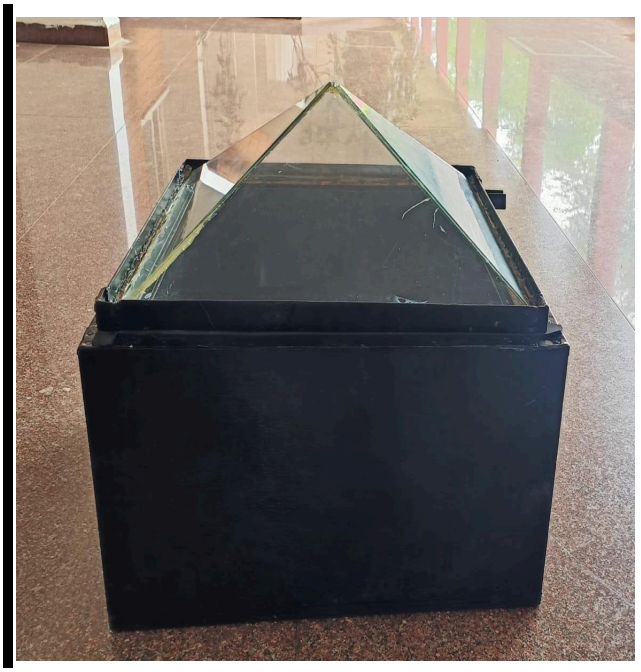
The table 5.7.3(iv) shows the working models/charts/monograms developed in the department.

Sl.NO	Product Title	Product Description	Students Name	Faculty name
1	Solar Tunnel Dryer	A **solar tunnel dryer** is a semi-cylindrical, greenhouse-type structure that uses solar energy to dry agricultural products efficiently. It provides controlled drying conditions, reduces moisture content, and protects produce from pests, rain, and dust.	Sunita Siddannnavar Sayad Nijamuddin Basavaraj Annigeri	Prof.Vinaychandrika Kale
2	Solar Biomass Hybrid Dryer For Farmers And Rural Community	A **Solar-Biomass Hybrid Dryer** combines solar energy and biomass fuel to provide a reliable, sustainable drying solution for farmers and rural communities. It ensures continuous drying of agricultural products even during cloudy weather, improving	Mallu Arutagi Deepthi Chougla Sagar Rathod	Prof.Kantesh D C

		product quality, reducing post-harvest losses, and supporting rural livelihoods.		
3	Design and Development Of A Pyramid Solar Still Using Phase Change Material As Storage Medium	A pyramid solar still with phase change material (PCM) stores solar heat during the day and releases it at night, enabling extended freshwater production. Its pyramid shape enhances sunlight capture, improving overall efficiency and output.	Sriram Kulkarni Sridhar D Rahul Meeshi	Prof.Rajendra Ghivari

(a) Solar Tunnel Dryer

(b) Solar-Biomass Hybrid Dryer



(c) Pyramid Shape Solar Still

Project Title	Duration	Funding Agency	Amount
Installation of RCC pole with PCC at Sai Nagar, Naglingeshwar Nagar , Akkamahadevi Oni , Bazar Road , Siddehswara Nagar within premises of Municipal Corporation Minavalli . Installation of RCC pole with PCC at Sai Nagar , Naglingeshwar Nagar , Akkamahadevi Oni , Bazar Road , Siddehswara Nagar within premises of Municipal Corporation Minavalli .	1 Day	Shri Ramesh Gokavi(Shri Ram Electricals)	5163.00
"Action Plan No 34 , Providing Three High Mast Lamp at Momin Community Burial Ground. Purchasing of generator to CMC Gokak and Construction of generator room and wiring, fixing of New Control Switch Points at flood damaged area."	1 Day	Shree Traders(Shrishail Kurbet)	19119.00
Action Plan 43: Providing and fixing electrical poles and arrange the street light near Gangamatha Temple and providing and fixing one High Mats lamp at Ambiger Community Burial ground.	1 Day	Shree Traders(Shrishail Kurbet)	7216.00
Supply of Water Heater	1 Day	Shree Traders(Shrishail Kurbet)	1722.00
Action Plan 10 : Providing electrical connection and payment of HESCOM deposit for the street lights at SWM Site	1 Day	Shree Traders(Shrishail Kurbet)	2000.00
Action Plan No 24 , Providing Electric UG Cable at Adibatti layout of R S no 90 at W No 10 of Gokak CMC	1 Day	Shree Traders(Shrishail Kurbet)	22258.00
Action Plan No 25 Providing High Mast Street Light Near Padagatti at Ward No 15 of Gokak	1 Day	Shree Traders(Shrishail Kurbet)	3080.00
Fixing of Pole and LED lights at Plot No 90 to 8 and 33 to 65 , Handigund layout in W No 10 at Gokak CMC (AP33)	1 Day	Shree Traders(Shrishail Kurbet)	4312.00
Action Plan :11, Installation of 73 HP plus 480watts with 3 Phase electrical Unit to 50 DPD capacity compost recycle Unit in SWM Site .	1 Day	Sanvika Electricals Gokak (Ravi Kallimani)	4070.00
"Installation of RCC poles in Gokak Falls Grave Yard Fixing of LED lamps to the RCC poles within the area of Konnur Municipal Council. "	1 Day	Shri Manjunath Electrical & Electronics Contractor(Suresh	4973.00

		Hoolikatti)	
"Laying down of cable (Underground) and Installation of the LED lamps from Karemmma Temple to Manikwadi. Installation of High Mask Near the Durgadevi Temple"	1 Day	shivaraj pattar(Shr Kalidevi Electricals)	7434.00
Installation of RCC poles near J .J .Hospital Ghataprabha	1 Day	Shri Manjunath Electrical & Electronics Contractor(Suresh Hoolikatti)	2360.00
Laying down of the service wire from the gokak main road till Tapasvimardi	1 Day	Shri Manjunath Electrical & Electronics Contractor(Suresh Hoolikatti)	2478.00
			Total Amount(X): 86185.00

5.7.4 Consultancy(from Industry) (5) **2023-24 (CAYm1)**

2022-2023 (CAYm2)

Project Title	**Duration**	**Funding Agency**	**Amount**
Shifting of electrical poles from kirshnamurthy Puranik circle to patugundi maruti temple in W.No. 1,2 &4 (SFC special fund 2019-20)	1 Day	Shri Manjunath Electrical & Electronics Contractor(Suresh Hoolikatti)	19624.00
Additional required amount reserved for the grant of SFC soecial 2019-20 shifting of electrical poles from krishnamurthy puranik circle to putagundi maruti temple in W.No. 1,2 and 4 for the year 2019-20 SFC special fund.	1 Day	Shri Manjunath Electrical & Electronics Contractor(Suresh Hoolikatti)	4378.00
Installation of street lights in new areas and repair of newly installed high masts and center poin tin CMC Limit	1 Day	Shri Manjunath Electrical & Electronics Contractor(Suresh Hoolikatti)	4916.00
Cleaning old intake well, new intake well and connected pipeline removing of forigne materials at Gokak CMC Jack well.	1 Day	Swapnil Engineering Corporation	10490.00
Supply and fixing of suitable spares manifold of 75 HP vertical turbine pump no. 2 connected to PVC, CI & DI pipe line and other accessories installed at Gokak jack well. Supply and fix-ing of suitable reflux valve along with other accessories to 75 HP vertical turbine pump no.2 and other accessories installed at Gokak CMC jack well.	1 Day	Vigneshwar Engineer's (Shri Sanjay Mahadeo Patil)	10308.00
Supply and fixing of suitable spares to Main Panel board and 200 HP starter no.1 and other allied accessories at Gokak CMC Jack well.	1 Day	Vigneshwar Engineer's (Shri Sanjay Mahadeo Patil)	4171.00

Supply and fixing of suitable spares to 200 HP auto Transformer starter of vertical turbine pump set No 2 and repair to 75 HP mo-tor No 1 and other allied accessories at Gokak CMC jack well.	1 Day	Dhanalaxmi Enginnering Enterprises(Shweta Shirish Shelar)	4255.00
Supply and fixing of suitable spares to 200 HP auto Transformer starter of vertical turbine pump set No 2 and repair to 75 HP mo-tor No 1 and other allied accessories at Gokak CMC jack well.	1 Day	Dhanalaxmi Enginnering Enterprises(Shweta Shirish Shelar)	5038.00
Supply and fixing of suitable spares to 75 HP starter No. 1 and other allied accessories at Jack well Gokak. Supply & fixing of suitable spares to 80 HP starter No. 1 and other allied accesso-ries installed at Gokak CMC WTP.	1 Day	Dhanalaxmi Enginnering Enterprises(Shweta Shirish Shelar)	9980.00
Additional required amount reserved for the grant of SFC soecial 2019-20 shifting of electrical poles from pump house to krishnamurthy puranik circle in W.No. 2,3,29,30, and 31 for the year 2019-20	1 Day	Shri Manjunath Electrical & Electronics Contractor(Suresh Hoolikatti)	19256.00
Supply and fixing of suitable spares manifold of 75 HP vertical turbine pump no. 2 connected to PVC, CI & DI pipe line and other accessories installed at Gokak jack well. Supply and fix-ing of suitable reflux valve along with other accessories to 75 HP vertical turbine pump no.2 and other accessories installed at Gokak CMC jack well.	1 Day	Swapnil Engineering Corporation	9921.00
Additional required amount reserved for the grant of SFC soecial 2019-20 shifting of electrical poles from pump house to krishnamurthy puranik circle in W.No. 2,3,29,30, and 31 for the year 2019-20	1 Day	Shri Manjunath Electrical & Electronics Contractor(Suresh Hoolikatti)	19256.00
			Total Amount(Y): 121593.00

2021-2022 (CAYm3)

Project Title	**Duration**	**Funding Agency**	**Amount**
providing and fixing bowl assembly set, column pipe for 75Hp pump set Gokak	1 Day	Gokak	12000.00
Providing 3 phase line to the Highmast street near different places in Gokak	1 Day	Gokak	25600.00
Providing 3 phase line to the Highmast street near different places in Gokak	1 Day	Gokak	36800.00
TMC Munavalli installation of Mini Highmast Lamp at Panchalingeshwara circle	1 Day	Gokak	13600.00
			Total Amount(Z): 88000.00

Visited TMC Konnur

SURESH ANGADI EDUCATION FOUNDATION'S

ANGADI INSTITUTE OF TECHNOLOGY AND MANAGEMENT

Savagaon Road, Belagavi – 590 009.

Approved by AICTE, New Delhi & Affiliated to Visvesvaraya Technological University, Belagavi

Accredited by NAAC

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

5.8 Faculty Performance Appraisal and Development System (FPADS) (30)

Faculty Performance Appraisal and Development System (FPADS) is a process used by AITM to evaluate the performance of teaching staff for supporting their development within the framework of the institution plans.

The ultimate goal of FPADS is to evaluate and support faculty members in their professional growth and development, while also ensuring that they are meeting the expectations and standards of the institution. By providing regular feedback and support, Institute can help the faculty members stay motivated and engaged in their work, which can ultimately lead to better outcomes for students and the institution as a whole.

The evaluation process can include a combination of quantitative and qualitative measures, such as

1.Students Feedback

2.Academic Performance

3.Self Evaluation followed by assessment by HOD and Principal

The faculty performance is evaluated for 200 marks. Assessment will be carried out every academic year before 30th September.

Students Feedback

In each semester, student feedback is taken for all teaching faculty. The parameter of student feedback will carry 30 points in appraisal system. The feedback form is designed at the institutional level for all the programs by considering all the dimensions of the teaching-learning process Feedback is taken through an online (ERP) mode twice in a semester. The First feedback evaluation is made after the first Internal Assessment Test and the second feedback evaluation is made at the end of the semester. Feedback parameters are

Time Sense, subject command,use of teaching methods/teaching Aids, helping attitude,laboratory interaction, class control

Analysis:

The course wise feedback is obtained from students based on a questionnaire that contains 20 parameters. Each parameter is quantified on a scale of 1 to 5 point, with 5 indicating maximum point and 1 indicating the minimum.

The feedback report about a course gives an average point attained by the faculty in each parameter, and also gives the cumulative average point for that particular course. In sequel, the teacher's performance is rated as follows:

Excellent if cumulative average point is greater than 4.5,

Very good if it lies between 4.0 - 4.5,

Good between 3.5 - 3.9,

Satisfactory between 3.0 - 3.49 and

Poor if it is less than 3.0.

1. The Head of the Department analyses all the feedback reports and brings to the notice of each faculty. The positive comments are appreciated, and lapses, if any, are communicated to the concerned faculty for necessary corrective measures. The HOD interacts with faculty members whose cumulative average point is less than three.

2.The Head of the Department submits all feedback reports of all faculty to IQAC and Principal at the end of each semester.

B. Academic Performance

After the declaration of University results, the result analysis is carried out for every semester. A weightage of 40 marks are assigned to the parameter of University results of the subject's faculty

have taught, number of classes engaged and student's attendance. The benchmarks for results are decided after considering previous year results and complexity of the subjects taught. Below points are considered while relating student's results with faculty appraisal.

- Students understanding and maturity level increases and subsequently enhance in the performance. Initially more efforts are required in first year and these students results might be low average.
- Depending on the complexity of the subject, the results may vary. Students get less mark in mathematical based subjects and may score well in theoretical subjects. So, highest result of difficult subject and lowest result of easy subject are taken into account.

C. SELF APPRAISAL

Faculty will be given a self-appraisal form (attached)

As per the meeting scheduled, the personal interaction will be carried out with faculty by HoD and followed by Principal. Evaluation of performance of faculty will be done on the basis of following parameters for 130 marks:

Sl.No	Criteria
1	Teaching engagements and results in the Academic Session (Last 1 Year)
2	Summer School / Winter School / Seminar / Conferences/ Symposium organized

3	Journal Paper
4	Conference Paper
5	Patents
6	Grants Received
7	Research Proposals Submitted
8	Students Project Grants
9	Responsibility at College Level
10	Responsibility at Department Level
11	Books /Monographs / Manuals Authored / Edited (only National & International Publication
12	Extra Curricular activities performed : (excluding scheduled college responsibilities

Final Grade Calculation

The final grade of the faculty will be calculated by considering performance in student feedback, Academic performance, self appraisal and assessment by HoD followed by the Principal.

A- Excellent: Faculty will be encouraged to maintain the performance.

B- Good: Faculty will be encouraged for further improvement if required.

C- Below Average: Improvement is required. Asked to clear online courses and get certified.

D- Poor: Training and support will be given for improvement. Senior faculty will be assigned as a mentor for such faculty.