Lokmanya Tilak Jankalyan Shikshan Sanstha's

PRIYADARSHINI COLLEGE OF ENGINEERING

Priyadarshini Campus, Digdoh Hills, Hingna Road, Nagpur- 440019
Phone No.: +91-7104 244681, Fax: +91-7104-244681
Email: pce.principal@gmail.com / Website: www.pcenagpur.edu.in

7.2 Best Practice

Best Practice 1

1. Title of the Practice: PCE Green Initiative

2. Objectives of the Practice

Environmental issues bring about thoughtful questions on the roles of Institutes in society. Irrespective of whether they are contributing to a better environment or worsening it, Institutions have to acknowledge environmental or green issues through impact research and measurement. Based on the approach PCE has significant Green Initiatives to ;

- Promote sustainability by creating awareness
- Share knowledge & Expertise. Expert talks about environmental problems and possible solutions
- Deploy eco-friendly technologies for greening and cleaning our campus.

3. The Context

The main contexts are (i) Water Management, (ii) Waste management, (iii) Energy (conservation and generation) and (iv) Landscaping and Trees.

4. The Practice

The Green initiative is driven by the ‘Green Initiative Cell’ which runs all the activities & the maintenance of the systems used in the operation.

(i) Rain Water harvesting

The water shed management systems help in the betterment of flora & fauna around the area. They also increase the soil quality.

Rain water harvesting structures have been created. Drain pipes collect the roof top rain waters and discharge it to rain water harvesting pits.

An artificial lagoon admeasuring around 18,000 sq. meters & around average 3 meters deep had been dug inside the campus. Every year the lagoon gets filled to its brim during the rainy season. This water is not used in the institute. Hence apart from evaporation loss this entire volume of around 50,000 cubic meters adds to the water table of the surrounding areas. This is evidenced by the increase in the levels of many wells in surrounding areas.

(ii) Energy conservation & use of renewable energy

The Internal stakeholders takes all measures to save the power. More than 80% lighting requirements are met through LED sources. Two Solar power generating systems of 376KW & 213 KW totalling 589 KW is provided on the roof top of the academic buildings. The girls hostel building is equipped with 50 KW solar power system.The systems are equipped with net metering. With the installation of this system, more than 80% of the total electricity requirement is met.

(iii) Plantation

• The institute has decided to focus upon betterment of environmental conditions in & around its campus by having major plantations inside the campus. We believe that with the plantation of native trees of different varieties we shall be able to add oxygen & reduce the load of carbon di oxide & strengthen the ecosystem in the surrounding atmosphere.

- Every year students along with the staff, plant trees. Plantation Drives are organized various departments separately, in and out of campus as well.
- Due to this program over the years the campus has become lush and green. Also, a herbal garden consisting of plants with medicinal values is proposed to be cultivated in the college campus.

(iv) Waste Management

Bio degradable waste

- As a practice the institute does not allow any bio degradable waste to be discarded out of campus. We use it to prepare compost manure.
- There are two types of bio degradable waste in the campus one is the canteen waste & the other is garden waste.
- Composting pits have been dug at many places inside the campus & are taken care with best composting practices.

E-waste management

- Students & teachers are encouraged to collect e-waste from their homes & neighbourhoods. The institute runs e-waste collection drive from time to time. This reduces the e-waste in the society.
- The e-waste thus collected & the e-waste generated within the institute, is then disposed off by selling it to government authorized e-waste collection agencies. These agencies in turn dispose off the e-waste as per the procedures laid down by relevant department.

Efforts for carbon neutrality

By conserving and reusing energy the need for excessive use of fossil fuels can greatly reduce, thus reducing carbon emissions. Installing solar panels helps in reducing carbon emissions. The installation of in all 639 KW solar power systems has saved a lot of amount of carbon dioxide released into the air.

The movement of people inside the campus also requires great deal of fossil fuel consumption. The institute encourages the staff & students to use the bicycles & battery powered vehicles provided in the campus for this purpose.

The trees are natural carbon dioxide sinks. Thousands of trees inside the campus add a lot to carbon sequestration.

Thus the emission of carbon dioxide is greatly reduced with these efforts in the institute to achieve carbon neutrality.

5. Evidence of Success

i) Water Management

1. Approximate Quantity of water harvested through lagoon = 50,000 cubic meters.
2. Water levels in surrounding area wells have risen & is greatly appreciated by local public.
3. Many large trees in the campus are self -supported without any external watering, which clearly indicate the high water table even on a hilly terrain of our campus.

ii) Waste management

1. Compost manure sold; 200 kg worth Rs. 5000/-
2. Compost manure used in campus approximately 500 kg worth Rs. 12500/-
3. E - waste sold

iii) Solar Power Systems

- Reduction in cost of electricity;
- Expenses before Solar systems
- Expenses after installation of Solar systems

iv) Landscaping and Trees

- Total No. of trees in the campus Approx. 5,500.
- Taking example of Neem, Teak & Peepal in the campus.

Approximate weight of CO_2 absorbed is shown in the table below;

S. No.	Name of Tree	No. of Trees	Carbon sequestering Capacity/annum/plant	Total Carbon Sequestered/annum
1	Teak	1672	30.42 Kg	50,862 Kg
2	Neem	400	21.77 kg	8800Kg
3	Peepal	100	21.77 kg	2200Kg
4	**Total**			**61,862 Kg**

(ii) As per our last green audit the carbon footprint of the vehicles burning fossil fuels in the campus is only11938.28kg/anum, whereas only three verities of trees are sequestering 61,862 kg of Carbon/anum. Apart from these three verities there are thousands of other trees for which Carbon sequestering is not calculated. It shows that the net Carbon foot print of the institute campus is definitely negative.

(iii) The green initiative activities in & out of campus by the students are creating greater awareness in the society as well as upon the students themselves. The expert talk in the campus also strengthen the commitment to the environmental protection amongst students & staff.

6. Problems Encountered and Resources Required

The Green Initiative requires to identify the areas which can have greener solutions. It takes a great deal of research in resolving these problems. This research requires time & resources as well as great deal of capital allocation. As a regular teaching institute the staff is burdened with their day to day academic & administrative activities. Hence finding time & resources is a bit difficult. Cost for implementation some times puts barrier for immediate deployment.

Dr. Seema Shrivastava
Associate Professor In-charge –
Green [illegible] Contact
9730031456
Email: [illegible]

Best Practice - 2

Title: Assessment for Teaching Competencies

Objective

To ensure continuous improvement in teaching quality by assessing, developing, and enhancing the competencies of educators. The objective is to foster an effective teaching-learning process and create a dynamic academic environment that meets institutional and student needs.

Context

The assessment of teaching competencies is crucial for improving the overall quality of education. Educators often face challenges such as lack of feedback, changing pedagogical demands, and the need to integrate innovative teaching practices. By creating a structured assessment framework, institutions can identify gaps, provide targeted support, and enable professional growth, aligning with global educational standards.

Process

Competency Framework Development:

A set of core teaching competencies like subject knowledge, pedagogy, communication skills, use of technology, classroom management, and student engagement are defined to ensure upgradation & upkeep of teaching learning process.

Assessment Tools and Methods:

1. **Self-assessment surveys**:

A. **Academic review by Peers**:

1. **Classroom observations**: Classroom observations are conducted by academic leaders or external experts to assess real-time teaching practices. Educators in our institute undergo rigorous evaluation of teaching learning process. The teaching methods of newer faculty members are observed by a team of experienced faculty members as experts based on various parameters. A committee is constituted to execute the action plan laid out for the process of academic review. The parameters include, use of practical examples & illustrations during teaching, Effective coverage of syllabus/topic, Quality of display / content (BB, PPT, PDF, VIDEO etc), Preparedness & efforts taken to deliver the subject topic.
2. **Academic Audit**: an academic audit is conducted by a team of experts headed by the Dean Academics to ensure proper content delivery of the syllabus, record keeping and monitoring the academics of the students. Here the educators are pointed out the shortcomings in the teaching learning process and are asked to improve themselves in the upcoming semesters.

B. **Student feedback:** Student feedback conducted in every semester becomes an important tool to assess the pedagogical competencies & performance of Teachers. The input received through the feedback sets the momentum for improvement in effectiveness of teaching and engagement strategies.

2. Professional Development: The educators are encouraged to excel in their domain by becoming part of Conferences, Chairing sessions & being part of peer review committee. The Educators also undertake in-house training programs like STTPs, FDPs, Refresher

Courses, NPTEL courses to update themselves with the fast-changing times & challenges of technology. These training programs ups innovative pedagogy and technology integration

Evidence of Success

1) Better academic performance and participation of students in the classroom.
2) Positive peer and management feedback on teaching practices.
3) Improved student satisfaction scores in teaching evaluations.
4) Increased participation of faculty in professional development programs.
5) Enhanced teacher engagement with innovative teaching tools and methods

Result analysis of the students

	Sem I	*Sem II*
2022-23	54.24	83.2
2023-24	61.55	80.41

Professional Development: Number of educators completing NPTEL courses

2021-22	**2022-23**	**2023-24**
Nil	03	18

Problems Encountered

1) Resistance to feedback and change from educators.
2) Inconsistent participation in assessment initiatives.
3) Challenges in ensuring objective and unbiased assessment processes.
4) Difficulty in maintaining a balance between assessment and teaching workload.

This structured approach to assessing teaching competencies ensures the continuous growth of educators and improves the overall quality of education delivery in institutions.

Observation Formats & Reports

PRIYADARSHINI COLLEGE OF ENGINEERING, NAGPUR

NOTICE

Date: 03/10/2023

A committee of following members is constituted to assess the teaching competencies of junior faculties teaching to First Year 2023-24.

Sr. No.	**Name of Faculty**	
1	Dr. G. M. Asutkar	Chairman
2	Dr.(Mrs.) S.N.Rao	Member
3	Dr. (Mrs.) B. C. Burande	Member
4	Dr. (Mrs.) M. P. Joshi	Member
5	Dr. (Mrs.) S. A. Shrivastava	Member, Subject expert
6	Dr.(Ms.) R. A. Keswani	Member, Subject expert
7	Dr.(Mrs.) B. S. Agrawal	Member, Subject expert
8	Dr.(Mrs.) N. M. Thakare	Member, Subject expert
9	Dr.(Mrs.)K.G.Lokhande	Member, Subject expert
10	Dr. (Mrs.) S. M. Sawde	Member, Subject expert

The above committee members are required to attend the classroom lectures of junior faculties during 7th - 15th October, 2023 and asess their teaching performance in the attached format. They are further requested to submit an evaluation report and also communicate the observations to the concerned faculty.

Principal
Priyadarshini College of Engg.
Nagpur.

Dr. S. A. Dhale
Principal

Copy to : Above Faculty Members.

Subject & Pedagogy Evaluation Formats

Priyadarshini College of Engineering, Nagpur
Subject Evaluation Sheet

Department:
Subject :
Name of Teacher :
No. of students present in the class:

Semester :
Section :
Date:

Sn.	Question	Marks			
		5	5	5	5
1	Use of practical examples and illustrations during teaching				
2	Effective coverage of syllabus/ topic				
3	Quality of Display content (BB/ PPT/PDF/video etc)				
4	Preparedness and efforts taken to deliver the subject topic				
5	Technical/ Teaching content				
	Total				

Priyadarshini College of Engineering, Nagpur
Pedagogy Evaluation sheet

Department:
Subject :
Name of Teacher :
No. of students present in the class:

Semester :
Section :
Date:

Sn.	Question	Marks			
		5	5	5	5
1	Clarity and Audibility of speech in the classroom				
2	Handwriting and Use of blackboard				
3	Interaction with the students				
4	Body Language				
5	Communication Skills				
	Total				

Class Observation Time Table

Priyadarshini College of Engineering, Nagpur

Time table for Class Observation of Junior Staff

S.N	Department	Name	Subject	Sec	Date	Day	Time
1	EE	Vishakha Jabulkar	BEEE	U	7/10/23	Monday	10:30-11:30
2	Applied Physics	Dr. Gitanjali Tabhane	EP	C	7/10/23	Monday	11:30-12:30
3	Applied Physics	Ms. Snehal Kolte	EP	B	7/10/23	Monday	11:30-12:30
4	CT	Ms.Vibha Gomase	BC	T	07/10/23	Monday	12:30-01:30
5	EE	Rutuja Kapse	BEEE	V	07/10/23	Monday	12:30-01:30
6	Humanities	Ms. Anjali Khatvani	CS	E	7/10/23	Monday	2.00-3.00
7	CT	Ms. Mrunali Choure	PPS	F	8/10/23	Tuesday	10:30-11:30
8	CT	Mr.Shubham Tayade	PPS	I	8/10/23	Monday	11:30-12:30
9	Applied Chemistry	Mr. Sonu Maity	AC	B	8/10/23	Tuesday	11:30-12:30
10	CT	Mrs. Alka Srivastav	PPS	G	8/10/23	Tuesday	11:30-12:30
11	Applied Physics	Teswani Jaulkar	EP	D	8/10/23	Tuesday	12:30-1:30
12	Applied Maths	Bhavana Tarankar	BCDE	B	8/10/23	Tuesday	12:30-1:30
13	Humanities	Ms.Sapana Sonarkar	CS	Q	8/10/23	Tuesday	2.00-3.00
14	Humanities	Ms. Anjani Varma	ITK	W	8/10/23	Tuesday	2.00-3.00
15	Humanities	Minakshi Paunikar	CS	D	9/10/23	Wednesday	10:30-11:30
16	Humanities	Mrs.Priti Meshram	ITK	K	9/10/23	Wednesday	10:30-11:30
17	Applied Chemistry	Mr. Shahbaz Khan	EC	F	9/10/23	Wednesday	11:30-12:30
18	EE	Ms. Aboli Dhobale	BEEE	L	9/10/23	Wednesday	11:30-12:30
19	EE	Prachi Nimkhade	BEEE	G	9/10/23	Wednesday	11:30-12:30
20	EE	Ms. Monali Fulzele	BEEE	W	9/10/23	Wednesday	11:30-12:30
21	Applied Chemistry	Ms. Rashmi Dhole	EC	W	9/10/23	Wednesday	12:30-01:30
22	Humanities	Ms.Ganga Pal	CS	N	9/10/23	Wednesday	2.00-3.00
23	Applied Physics	Mrs. Rohini Mesare	EP	R	11/10/23	Friday	10:30-11:30
24	Applied Physics	Ms. Nidhi Rathi	EP	Q	11/10/23	Friday	11:30-12:30
25	Applied Physics	Viplov Dhoke	EP	Q	11/10/23	Friday	12:30-1:30
26	Applied Physics	Chitransh Malvi	EP	P	11/10/23	Friday	12:30-1:30
27	CT	Ms. Radhika Mokhate	CP	X	15/10/23	Tuesday	11:30-12:30
28	CT	Mrs.Sonali Baradwaj	BC	O	15/10/23	Tuesday	3:00-4:00
29	Applied Physics	Shrutika Patinge	EP	T	15/10/23	Tuesday	3:00-4:00
30	CT	Mr. Vivek Choudhari	PPS	J	15/10/23	Tuesday	4:00-5:00
31	Humanities	Mrs.Arti Singh	CS	P	17/10/23	Thursday	10:30-11:30
32	Humanities	Ms.Mansi Joshi	CS	C	17/10/23	Thursday	10:30-11:30

Class Observation Report - Pedagogy & Subject

Priyadarshini College of Engineering, Nagpur

Time table for Class Observation of Junior Staff

S. N	Department	Name	Subject	Sec	Marks (25)		Remarks (Subject Evaluation)	Remarks (Pedagogy Evaluation)
					Sub.	Peda.		
1	App. Che.	Mr. Sonu Maity	AC	B	25	24	–	Communication is more in hindi
2	App. Che.	Mr. Shahbaz Khan	EC	F	25	23	_	_
3	App. Che.	Ms. Rashmi Dhole	EC	W	25	18	Needs to prepare the topic thoroughly	Language to be improved
4	App. Maths	Bhavana Tarankar	BCDE	B	25	25	_	_
5	App. Phy.	Dr. Gitanjali Tabhane	EP	C	23	25	_	_
6	App. Phy.	Ms. Snehal Kolte	EP	B	23	22	_	_
7	App. Phy.	Teswani Jaulkar	EP	D	25	24	–	Confident and overall good
8	App. Phy.	Mrs. Rohini Mesare	EP	R	20	21	Class copy is incomplete, students need to write defination and derivations , notes provided well in advance	Notes provided well in advance and class copy not maintained by students
9	App. Phy.	Ms. Nidhi Rathi	EP	Q	25	20	Class copy is incomplete students need to write defination and derivations	Overall good
10	App. Phy.	Viplov Dhoke	EP	Q	22	18	Improve handwritting on board	_
11	App. Phy.	Chitransh Malvi	EP	P	22	23	_	Writting should be straight on backboard
12	App. Phy.	Shrutika Patinge	EP	T	23	17	–	Communication is more in hindi
13	CSE	Ms. Mrunali Choure	PPS	F	19	20	Lecture delivered in hindi only and syllabus is lagging	Need to explain with example overall good
14	CT	Ms.Vibha Gomase	BC	T	21	17	Maximum communication in hindi	Less audible and did not bother if students are writing or not
15	CT	Mr.Shubham Tayade	PPS	I	20	23	Syllabus is lagging and Satisfactory	Communication is more in hindi
16	CT	Mrs. Alka Srivastav	PPS	G	19	21	Syllabus lagging and not proper utilization of blackboard	Syllabus lagging and blackboard use is not proper

17	CT	Ms. Radhika Mokhate	CP	X	20	16	Improvement in blackboard writting is needed	Syllabus coverage is slow and continuosly looking at board and not looking at students
18	CT	Mrs.Sonali Baradwaj	BC	O	19	17	Concept should be elaborated	Class was over 10 min before time and need to improve blackboard presentation
19	CT	Mr. Vivek Choudhari	PPS	J	13	16	Reported 20 min late, Lecture delivered in hindi only, incorrect programm and unorganised blackboard work (writting)	Communication more in hindi and syllabus lagging
20	EE	Vishakha Jabulkar	BEEE	U	23	24	Must carry self prepared notes instead of book	Overall good
21	EE	Rutuja Kapse	BEEE	V	21	16	Communication to be improved	Communication mostly in hindi and needs more preparation
22	EE	Ms. Aboli Dhobale	BEEE	L	23	21	_	_
23	EE	Prachi Nimkhade	BEEE	G	23	20	_	_
24	EE	Ms. Monali Fulzele	BEEE	W	21	19	_	_
25	Hum.	Ms. Anjali Khatvani	CS	E	24	24	Use less hindi while delivering the session	Overall good
26	Hum.	Ms.Sapana Sonarkar	CS	Q	23	20	_	Students must maintain separate copy
27	Hum.	Ms. Anjani Varma	ITK	W	24	25	_	_
28	Hum.	Minakshi Paunikar	CS	D	25	20	_	Notes copy not maintained by students
29	Hum.	Mrs.Priti Meshram	ITK	K	23	21	_	Satisfsctory
30	Hum.	Ms.Ganga Pal	CS	N	23	19	_	Lagging in syllabus coverage
31	Hum.	Mrs.Arti Singh	CS	P	23	19	_	English may be improved and very less interaction with students
32	Hum.	Ms.Mansi Joshi	CS	C	19	15	_	_

Subject Expert:	Dr.(Mrs.) S.A. Shrivastava	Chairman	Dr. G. M. Asutkar
Subject Expert:	Dr.(Ms.) R. A. Keswani	Member	Dr.(Mrs.) S.N.Rao

Subject Expert:	Dr.(Mrs.) B. S. Agrawal	Member	Dr. (Mrs.) B. C. Burande
Subject Expert:	Dr.(Mrs.) N. M. Thakare	Member	Dr. (Mrs.) M. P. Joshi
Subject Expert:	Dr.(Mrs.)K.G.Lokhande		
Subject Expert:	Dr.(Mrs.) S. M. Sawde		

Principal
Priyadarshini College of Engg.
Nagpur.

Dr. S. A. Dhale
Principal

Academic Review- Observation Sheet - Theory

Priyadarshini College of Engineering, Nagpur.

Session: 2023-24 (Odd Semester)

Academic Review- Observation Sheet - Theory

Department: _____

Semester& Section: ------- **Date: ----------**

Remarks Committee members

_____

Subject	Name of Faculty	ttendanc Register	Teaching Plan	% Syllabu covered	CAT-1/2 Marks Online/ Offline qui conducted Question paper and other record	Assig-1/2 Assessment and sample copies	Teaching Material for online eaching and sharing with students	ubjec File	Use of Creativity ICT tools, innovative practices	Identified Slow and Advance learners & measures taken .It's Impact	iscrepancie (If any)	No. of Technical lecture organized by Department

_____

Name and Signature of Committee Members:

Name & Signature of Academic Coordinator Name & Signature of HOD

Academic Review- Observation Sheet - Practical

Priyadarshini College of Engineering, Nagpur.

Session: 2022-23 (Odd Semester)

Academic Review- Observation Sheet- Practical

Department: _____

Semester& Section: ------- **Date: ----------**

Subject	Name of Faculty	ttendanc Register	ist o xperiment	n novativ Practical	vailabilit of setup (Virtual Lab, Other online resources)	vailability o Lab Manual	onductio of xperiment	uality o Viva- Voce questions	urnal Prepare by Students	iscrepancie (If any)

Remarks Committee members

_____

_____

Name and Signature of Committee Members:

Name Signature of Academic Coordinator Name Signature of HOD