

### GURUKUL MAHILA MAHAVIDYALAYA

### KALIBADI ROAD, RAIPUR (C.G.)

### **ANNUAL ACTIVITIES 2024-25**

### **Science Department**

S no	Date	<b>Type of Event</b>	Name of Event	Participation
1	21/10/2024 to	Workshop	Three days Printed Circuit Board Design and	71
	23/10/2024	vvorksnop	Sensor Application	/1
2	21/12/2024	Study Tour	Somnath Mahadev Visit Tour	84
2	18/03/2025-	Wantsahan	Davis Floatnical Chill	74
3	19/04/2025	Workshop	Basic Electrical Skill	74
4.	07/04/2025 to	Workshop	Three days Workshop Gardening and Floriculture	32
4.	09/04/2025	vvorksnop	Three days workshop Gardening and Proficulture	32
5.	07/04/2025	Workshop &	One Day Workshop and Study Tour	54
3.	to 08/04/2025	Study Tour	On Vermiculture and Vermicomposting	34
6	March –	Training	Hands on Training in Green Chemistry	17
	April 2025	rraining	Trailes on Training in Orecii Chemistry	1 /

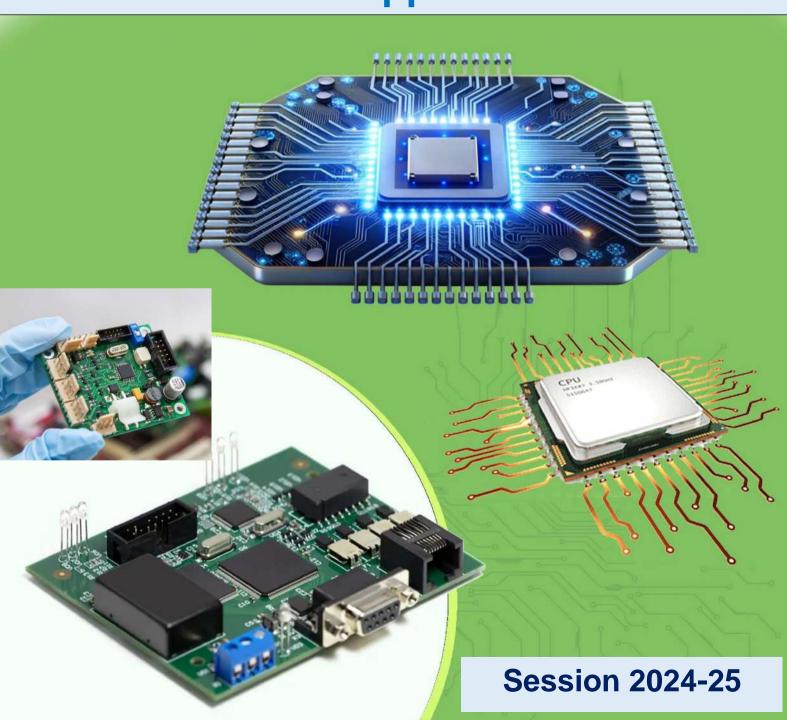




### **GURUKUL MAHILA MAHAVIDYALAYA**

KALIBADI ROAD, RAIPUR (C.G.)

# Printed Circuit Board Design and Sensor Application





# Printed Circuit Board Design and Sensor Application

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### **PROPOSAL**

#### Application for Conducting a Workshop

Date: 28 September 2024

To:		
The Principal,		
Gurukul Mahila Mahavidyalaya,		
Raipur, Chhattisgarh.		

Subject: Application for Conducting a Workshop on "Printed Circuit Board Design and Sensor Applications"
Respected Mam,

I am writing to propose a workshop titled "Printed Circuit Board (PCB) Design and Sensor Applications" at Gurukul Mahila Mahavidyalaya, Raipur (C.G.). This workshop is designed to provide students with practical skills in designing and fabricating Printed Circuit Boards (PCBs) while also covering important applications such as Fire Alarms, Rain Detectors, and Overhead Water Tank Level Detectors.

#### Workshop Objectives:

- · To introduce students to the basics of PCB design and its importance in electronics.
- To provide hands-on experience in PCB layout, design, and fabrication using software tools and hardware components.
- To teach students how to implement and integrate basic sensor applications in their projects.
- To encourage innovation and creativity in students through practical application of PCB design techniques and sensor functionalities.

#### Target Audience:

- Undergraduate students (BSc, MSc) at Gurukul Mahila Mahavidyalaya.
- Students with an interest in electronics, engineering, and technology.

#### Workshop Duration:

The proposed duration of the workshop is three days (3 hours per day). The schedule can be adjusted based on the institution's academic calendar.

#### Day-wise Workshop Outline:

#### Day 1: Introduction to PCB Design, Basics of Sensor Technology and Layout

Introduction to PCB Technology: Overview of Printed Circuit Boards and their importance in modern electronics.

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- Introduction to PCB Design Software: Demonstration of popular design tools like ExpressPCB.
- Basics of Sensor Technology: Overview of sensors and their applications in real-world projects.
- Software Installation: Guidance on installing PCB design software (e.g., ExpressPCB) on student laptops.

#### Day 2: PCB Fabrication, Elements assembly

- Detailed PCB Layout: Teaching advanced design techniques, including multi-layer designs and proper component placement.
- PCB Fabrication Process:
  - o Overview of PCB manufacturing and fabrication.
  - Introduction to etching using ferric chloride (FeCl3) solution for PCB development.
- Etching and Drilling:
  - Hands-on session on etching the designed PCB using Feb13.
  - Techniques for drilling holes in the PCB for component placement.
- Component Assembly:
  - Guided assembly of components onto the fabricated PCB.
  - Best practices for soldering and ensuring secure connections.

#### Day 3: Hardware Testing

- · Overview of Testing Procedures:
  - Introduction to the importance of testing in electronics projects.
  - Discuss different testing methods and tools used for electronic circuits.
- Testing the Student Projects:
  - Each student will connect their fabricated PCBs to a current supply.
- Functional Testing:
  - Students will verify the functionality of their circuits (e.g., fire alarm, rain detector, overhead water tank level detector) by simulating real-world conditions.
  - Encourage students to troubleshoot any issues that arise during testing.
- Certificate Distribution: Certificates will be provided through Google Forms to participants upon course completion.

#### Workshop Fee Structure:

To accommodate different levels of participation, the workshop fees will be divided into three modules:

#### 1. Modute 1:

- Group Size: 5 students per group
- o Fee: ₹100 per student
- Details: The kits used in this module will be returned at the end of the workshop. Students can purchase the kits they made if they wish to keep them.

#### 2. Module 2:

- Group Size: 3 students per group
- Fee: ₹200 per student
  - Details: The project created by the group can be kept by the students at no additional cost.

#### 3. Module 3:

- o Individual Work: Each student will work on their own PCB design
- > Fee: ₹300 per student
- Details: Each student will keep the project they create, including the entire kit and PCB.

#### Materials and Resources:

All necessary materials, including PCB design software, electronic components, and testing kits, will be provided for the duration of the course.

#### Instructors:

The workshop will be conducted by:

- Mr. Yagyavalkya Dewangan Founder of YVY Technologies, specializing in industrial automation and electronics.
- Mr. Manish Yaday An expert in Chemical and Electrical Panel Design (EPD).
- Mr. Roshan Experienced in BMS Solar technology projects.
- Ms. Varsha Yadav: Knowledgeable in Electronics Material and Workshop Management.

#### Proposed Date:

The workshop can be scheduled according to the institution's convenience. Kindly suggest suitable dates as per the college's academic calendar.

#### After the Workshop:

Students will be allowed to keep their designed PCB projects and will receive a Certificate of Completion that will enhance their academic portfolio and professional credentials.

#### Conclusion:

This PCB Design and Sensor Applications will be a valuable addition to your college's educational activities, providing students with practical skills and hands-on experience in electronics. I kindly request your permission to conduct this workshop at your esteemed institution.

Thank you for considering this proposal, I look forward to your positive response.

YVY TECHNOLOGIES RAIPUR (C.G.)

Yours sincerely,

Mr. Yagyavalkya Dewangan

Founder, YVY Technologies

Old Changorabhata, Raipur (C.G.)
Email: <a href="https://www.huologies.it.gmail.com">www.huologies.it.gmail.com</a>

Contact: 9301111042

Date: 28 September 2024

### **NOTICE**

# सूचना

सभी माननीय प्राध्यापकों को सूचित किया जाता है कि साइंस काउंसिल के अंतर्गत पीसीबी वर्कशॉप का आयोजन आगामी 21 22 तथा 23 अक्टूबर को किया जाना तय किया गया है। इस वर्कशॉप में आप सबकी उपस्थिति अपेक्षित है।

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### **ATTENDANCE SHEET**



### Gurukul Mahila Mahavidyalaya Kalibadi Road, Raipur (C.G.)



DAY 2 – PCB FABRICATION, ELEMENTS ASSEMBLY Date: 22/10/2024

### ATTENDANCE SHEET

Sl.No.	Name	Class	Signature
1	Bhumika Sahu	B.C.A - IIL	BX_
2	Roshani Sahu	B.C.A-IIL	Date
3 •	Riya Mishra	B.C.A- III.	Piyy
4	Payal Grilhane	BCA III	Pull
5	luke hoari kis	BLA II	T. Carlo
6	Dlaha dingh	BLA II	Au
_ 7	Namuata Maikeuri	BLA II	Warralla
8	Tukeshwavij	BCA · I	Rewangan
9	Vinita Rajak	Bcn-I	WRujak.
10	Vinita Rajak Alidhi Ramule Kavita Sahu	BCA-I	nsielre
11	Kavita Schu	BCA-I	Kacika
<sup>f</sup> 12	Grocima Sagar	BCA - I	Garino
13	Rinki Rotre	BCA - I	Rinkel
14`	Nacio Fritima	BCA - T	Na02 formy
15 ,	Must an Tulcha	BCA - I	Carrie
16	Janvi Sahi	BCA -I	dani
17	manisha sahu	BS I	mahu
18	Reshma Sahu	BSC (CS) I	Reshing sally
19	· Suman Sahy	BSC (CS) T	Suman
20	Amchana Sahu	BSC (CS) T BSC (PCM) I	epocharie Sahre
21	Rashmi Nayak		Porshmi'
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26 .	Chukanksha Dheige	SCICS ITT Bear	Operators.
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35	Asepida Verma B.SC. III (PCM)	) depita. Guniti Anjali Marko
36	The state of the s	Emiri.
37	Anjali Marko B.Sc I (cs)	Anjali Marko
38	Jigyan chowbey B.SC I (C.S)	Jigyasa
39	Fallow chamboulton B.SC. T (c.8)	fattart
40	Supelya Kashejap B.SC T (C.S.)	Burgaige.
41	Mamta Demongon BSC I (C.S)	Damta
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49	Hornshy Sulin BSC Ind (CS)	Hansley
50	Vo. meshwarish BSC II M (C3)	skilve
51	Rucika Salu BCC Ind ((3)	Puchita.
52	Dipiti Preadhan BSC II No (11)	Thall.
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59	Madhunishad ASC I (PCM)	Drishad
60	Upasana Hakun BSC T : PCM)	Upasana
61	Ruchita Sahy B.Sc I (PCM)	Dubda
	Sejal Davangan BSC T (CS)	Sual
62	Nilima Davangan BBC I [C.S.]	Nelima Davocnyan
63	Mansisahu B.S.CT (C.S)	Mans)
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68	Ninjala Yadar	BSC T (C.S.)	Sumas
69	Kasuna Saha	BSC I (c.s)	Ninjala
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### **ABOUT PROJECT DETAILS**

# Entrepreneurial Development Programmes

- It may be defined as a programme designed to help an individual in strengthening his entrepreneurial motive and in acquiring skills and capabilities necessary for playing his entrepreneurial role effectively.
- An EDP is primarily concerned with developing and motivating

### Objectives/Need of EDPs

- 1. To formulate project.
- To select project/product.
- 3. To analyze the environment.
- 4. To acquire the basic managerial skills.
- To understand the process and procedure of setting up of enterprise.
- Enable to communicate clearly and effectively.
- 7. Develop a broad vision about the business.

# Initial or Pre-Training Phase

- This phase includes activities and preparation required to launch the training programme.
- The main activities are:
- Creation of infrastructure for training.
- 2. Preparation of training syllabus.
- 3. Tie-up of guest faculty.
- 4. Designing tools and techniques for selecting the trainees.
- 5. Formation of selection committee.
  - Content of the Training Programme:

The main training inputs are as follows:

- 1.Technical knowledge
- 2. Achievement motivation training

Copper is an excellent electrical conductor

Electrical resistivity is approx 1.6 micro ohm cm

An inexpensive metal

Soft and easily workable

Easily processed and patternable by photolithography, using relatively benign chemicals

Copper can be easily electrodeposited onto a PCB Laminate – problems however!

#### ADHESION!

The adhesion is far superior from bonding copper foil sheets by the combination of heat, pressure and adhesive.

Common adhesion tests include measurement of **Peel Strength** – 'how easy is it to peel the copper foil off' and **Pull off Strength** – how easy is it to pull up the copper foil from the substrate

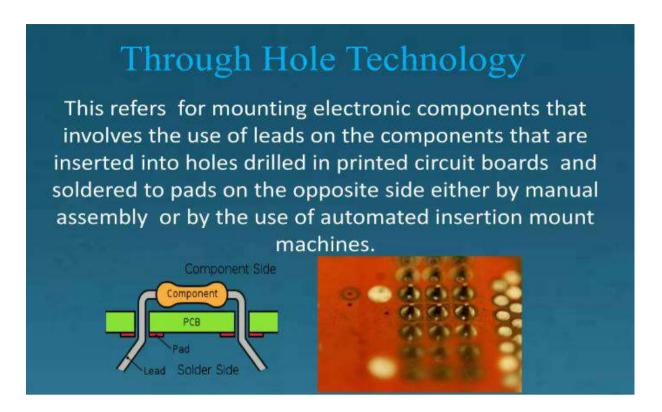
Copper is the dominant metal for interconnection use.

The copper foil is normally specified by weight i.e. one half oz per square ft (152.5 g/m<sup>2</sup>), oz per sq ft (305 g/m<sup>2</sup>).

These correspond to foil thicknesses of 17.5 and 35 microns respectively.

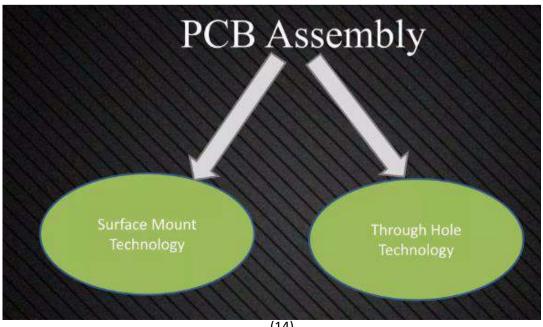
It is usually produced by electrolytic deposition on a flat mandril, and is about 99.8% pure and has a tolerance on thickness of about ± 10%.

A Printed Circuit Board or PCB is essentially a board that connects electronic components. It is the basic building block of any electronic design and has developed over the years into a very sophisticated component. In 1925, Charles Dukas of the US, created and patented a way of electroplating an electrical path onto an insulated surface. The Printed Circuit Board was born, opening the door to smaller, simpler and less cumbersome designs.



Printed Circuit Boards (PCBs) form the backbone of all major electronics. These miraculous inventions pop up in nearly all computational electronics, including simpler devices like digital clocks, calculators etc. For the uninitiated, a PCB routes electrical signals through electronics, which satisfies the device's electrical and mechanical circuit requirements. In short, PCBs tell the electricity where to go, bringing your electronics to life.

PCBs direct current around their surface through a network of copper pathways. The complex system of copper routes determines the unique role of each piece of PCB circuit board.





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PCBs direct current around their surface through a network of copper pathways. The complex system of copper routes determines the unique role of each piece of <u>PCB circuit board</u>. Before PCB design, circuit designers are recommended to get a tour of a PC board shop and communicate with fabricators face to face over their PCB manufacturing demands. It helps prevent designers making any unnecessary errors from getting transmitted during the design stage. However, as more companies outsource their PCB manufacturing inquiries to overseas suppliers, this becomes unpractical. On this account, we present this article in order to provide a proper understanding of PCB board manufacturing process steps. Hopefully it gives circuit designers and those new to PCB Industry a clear view on how printed circuit boards are

PCB Manufacturing Process Steps

manufactured, and avoid making those unnecessary errors.

#### **Step 1: Design and Output**

ircuit boards should be rigorously compatible with, a PCB layout created by the designer using <u>PCB</u> <u>design software</u>. Commonly-used PCB design software includes Altium Designer, OrCAD, Pads, KiCad, Eagle etc. *NOTE: Before PCB fabrication, designers should inform their contract manufacturer about the PCB design software version used to design the circuit since it helps avoid issues caused by discrepancies* 

he PCB industry birthed extended Gerber as the perfect output format. Different PCB design software possibly calls for different <u>Gerber file generation steps</u>, they all encode comprehensive vital information including copper tracking layers, drill drawing, apertures, component notations and other options. All aspects of the PCB design undergo checks at this point. The software performs oversight algorithms on the design to ensure that no errors go undetected. Designers also examine the plan with regard to elements relating to track width, board edge spacing, trace and hole spacing and hole size.

After a thorough examination, designers forward PCB file to PC Board Houses for production. To ensure the design fulfills requirements for the minimum tolerances during manufacturing process, almost all PCB Fab Houses run <u>Design for Manufacture (DFM) check</u> before circuit boards fabrication.

#### Step 2: From File to Film

PCB printing begins after designers output the PCB schematic files and manufacturers conduct a DFM check. Manufacturers use a special printer called a plotter, which makes photo films of the PCBs, to print circuit boards. Manufacturers will use the films to image the PCBs. Although it's a laser printer, it isn't a standard laser jet printer. Plotters use incredibly precise printing technology to provide a highly detailed film of the PCB design.

#### **Step 3: Printing the Inner layers: Where Will the Copper Go?**

The creation of films in previous step aims to map out a figure of copper path. Now it's time to print the figure on the film onto a copper foil.

This step in PCB manufacturing prepares to make actual PCB. The basic form of PCB comprises a laminate board whose core material is epoxy resin and glass fiber that are also called substrate material. Laminate serves as an ideal body for receiving the copper that structures the PCB. Substrate material provides a sturdy and dust-resistant starting point for the PCB. Copper is prebonded on both sides. The process involves whittling away the copper to reveal the design from the films.

In PCB construction, cleanliness does matter. The copper-sided laminate is cleaned and passed into a decontaminated environment. During this stage, it's vital that no dust particles settle on the laminate. An errant speck of dirt might otherwise cause a circuit to be short or remain open.



Next, the clean panel receives a layer of photo-sensitive film called photo resist. The photo resist comprises a layer of photo reactive chemicals that harden after exposure to ultra violet light. This ensures an exact match from the photo films to the photo resist. The films fit onto pins that hold them in place over the laminate panel.

The film and board line up and receive a blast of UV light. The light passes through the clear parts of the film, hardening the photo resist on the copper underneath. The black ink from the plotter prevents the light from reaching the areas not meant to harden, and they are slated for removal.

After the board becomes prepared, it is washed with an alkaline solution that removes any photo resist left unhardened. A final pressure wash removes anything else left on the surface. The board is then dried.

The product emerges with resist properly covering the copper areas meant to remain in the final form. A technician examines the boards to ensure that no errors occur during this stage. All the resist present at this point denotes the copper that will emerge in the finished PCB.

This step only applies to boards with more than two layers. Simple two-layer boards skip ahead to drilling. Multiple-layer boards require more steps.

#### **Step 4: Removing the Unwanted Copper**

With the photo resist removed and the hardened resist covering the copper we wish to keep, the board proceeds to the next stage: unwanted copper removal. Just as the alkaline solution removed the resist, a more powerful chemical preparation eats away the excess copper. The copper solvent solution bath removes all of the exposed copper. Meanwhile, the desired copper remains fully protected beneath the hardened layer of photo resist.

Not all copper boards are created equal. Some heavier boards require larger amounts of copper solvent and varying lengths of exposure. As a side note, heavier copper boards require additional attention for track spacing. Most <u>standard PCBs</u> rely on similar specification.

Now that the solvent removed the unwanted copper, the hardened resist protecting the preferred copper needs washing off. Another solvent accomplishes this task. The board now glistens with only the copper substrate necessary for the PCB.

#### **Step 5: Layer Alignment and Optical Inspection**

With all the layers clean and ready, the layers require alignment punches to ensure they all line up. The registration holes align the inner layers to the outer ones. The technician places the layers into a machine called the optical punch, which permits an exact correspondence so the registration holes are accurately punched.

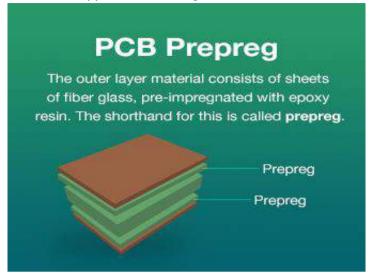
Once the layers are placed together, it's impossible to correct any errors occurring on the inner layers. Another machine performs an automatic optical inspection of the panels to confirm a total absence of defects. The original design from Gerber, which the manufacturer received, serves as the model. The machine scans the layers using a laser sensor and proceeds to electronically compare the digital image with the original Gerber file.

If the machine finds inconsistency, the comparison is displayed on a monitor for the technician to assess. Once the layer passes inspection, it moves to the final stages of PCB production.

#### Step 6: Layer-up and Bond

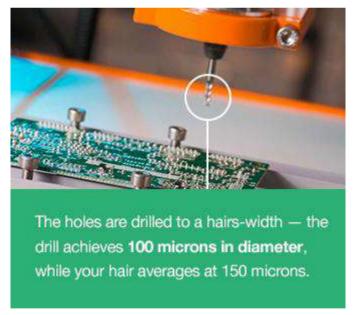
In this stage, the circuit board takes shape. All the <u>separate layers await their union</u>. With the layers ready and confirmed, they simply need to fuse together. Outer layers must join with the substrate. The process happens in two steps: layer-up and bonding.

The outer layer material consists of sheets of fiber glass, pre-impregnated with epoxy resin. The shorthand for this is called prepreg. A thin copper foil also covers the top and bottom of the original substrate, which contains the copper trace etchings. Now, it's time to sandwich them together.



Step 7: Drill

Finally, holes are bored into the stack board. All components slated to come later, such as copper-linking via holes and leaded aspects, rely on the exactness of precision drill holes. The holes are drilled to a hairs-width - the drill achieves 100 microns in diameter, while hair averages at 150 microns.



To find the location of the drill targets, an x-ray locator identifies the proper drill target spots. Then, proper registration holes are bored to secure the stack for the series of more specific holes.

Before drilling, the technician places a board of buffer material beneath the drill target to ensure a clean bore is enacted. The exit-material prevents any unnecessary tearing upon the drill's exits.

A computer controls every micro-movement of the drill - it's only natural that a product that determines the behavior of machines would rely on computers. The computer-driven machine uses the drilling file from the original design to identify the proper spots to bore.

The drills use air-driven spindles that turn at 150,000 rpm. At this speed, you might think that drilling happens in a flash, but there are many holes to bore. An average PCB contains well over one hundred bore intact points. During drilling, each needs its own special moment with the drill, so it takes time. The holes later house the vias and mechanical mounting holes for the PCB. The final affixation of these parts occurs later, after plating.

#### **Step 8: Plating and Copper Deposition**

After drilling, the panel moves onto plating. The process fuses the different layers together using chemical deposition. After a thorough cleaning, the panel undergoes a series of chemical baths. During the baths, a chemical deposition process deposits a thin layer - about one micron thick - of copper over the surface of the panel. The copper goes into the recently drilled holes.

Prior to this step, the interior surface of the holes simply exposes the fiber glass material that comprises the interior of the panel. The copper baths completely cover, or plate, the walls of the holes. Incidentally, the entire panel receives a new layer of copper. Most importantly, the new holes are covered. Computers control the entire process of dipping, removal and procession.

#### **Step 9: Outer Layer Imaging**

In Step 3, we applied photo resist to the panel. In this step, we do it again - except this time, we image the outer layers of the panel with PCB design. We begin with the layers in a sterile room to prevent any contaminants from sticking to the layer surface, then apply a layer of photo resist to the panel. The prepped panel passes into the yellow room. UV lights affect photo resist. Yellow light wavelengths don't carry UV levels sufficient to affect the photo resist.

Black ink transparencies are secured by pins to prevent misalignment with the panel. With panel and stencil in contact, a generator blasts them with high UV light, which hardens the photo resist. The panel then passes into a machine that removes the unhardened resist, protected by the black ink opacity.

The process stands as an inversion to that of the inner layers. Finally, the outer plates undergo inspection to ensure all of the undesired photo resist was removed during the previous stage.

#### Step 10: Plating

We return to the plating room. As we did in Step 8, we electroplate the panel with a thin layer of copper. The exposed sections of the panel from the outer layer photo resist stage receive the copper electro-plating. Following the initial copper plating baths, the panel usually receives tin plating, which permits the removal of all the copper left on the board slated for removal. The tin guards the section of the panel meant to remain covered with copper during the next etching stage. Etching removes the unwanted copper foil from the panel.

#### **Step 11: Final Etching**

The tin protects the desired copper during this stage. The unwanted exposed copper and copper beneath the remaining resist layer undergo removal. Again, chemical solutions are applied to remove the excess copper. Meanwhile, the tin protects the valued copper during this stage.

The conducting areas and connections are now properly established.

#### **Step 12: Solder Mask Application**

Before the solder mask is applied to both sides of the board, the panels are cleaned and covered with an epoxy solder mask ink. The boards receive a blast of UV light, which passes through a solder mask photo film. The covered portions remain unhardened and will undergo removal.

Finally, the board passes into an oven to cure the solder mask.

#### Step 13: Surface Finish

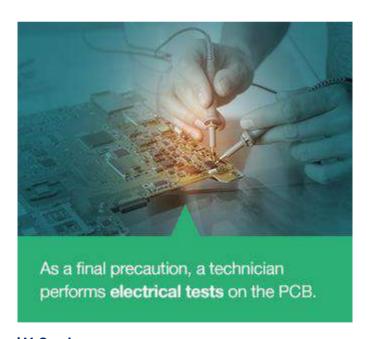
To add extra solder-ability to the PCB, we chemically plate them with gold or silver. Some PCBs also receive hot air-leveled pads during this stage. The hot air leveling results in uniform pads. That process leads to the generation of surface finish. PCBCart can process multiple types of <u>surface finish</u> according to customers' specific demands.

#### Step 14: Silkscreen

The nearly completed board receives ink-jet writing on its surface, used to indicate all vital information pertaining to the PCB. The PCB finally passes onto the last coating and curing stage.

#### **Step 15: Electrical Test**

As a final precaution, a technician performs <u>electrical tests on the PCB</u>. The automated procedure confirms the functionality of the PCB and its conformity to the original design. At PCBCart, we offer an advanced version of electrical testing called Flying Probe Testing, which depends on moving probes to test electrical performance of each net on a bare circuit board.



#### Step 16: Profiling and V-Scoring

Now we've come to the last step: cutting. Different boards are cut from the original panel. The method employed either centers on using a router or a v-groove. A router leaves small tabs along the board edges while the v-groove cuts diagonal channels along both sides of the board. Both ways permit the boards to easily pop out from the panel.

### **PHOTOGRAPH**





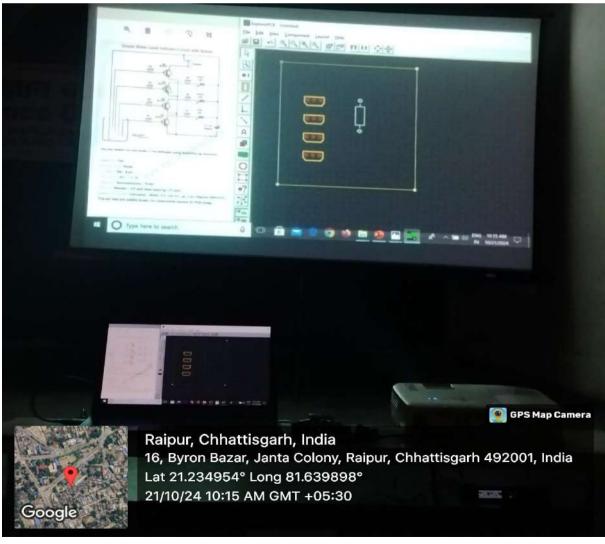
















### **LETTER OF APPRECIATION**

फोल : 0771-4053443



# गुरुकुल महिला महाविद्यालय



... छत्तीसगढ शासन तथा पंडित संविशंका शुक्त विश्वविद्यालय सवपुर से संबंध गुरुकृत परिसर, कातीबाड़ी रोड, सवपुर (छ.ग.) ई-मेल : info@gorukolrapor.com,Website : www.grom.ac.in

संचालित भातखण्डे ललितकला शिक्षा समिति, गांधी चौक, रावपुर (छत्तीसगढ़) पंजीयन क्रं. 16/51-52

BHIS: 4083 24

रिनांक : <u>29 10 24</u>

### Department of Science Letter of Appreciation

To,

Mr. Yagyavalkya Dewangan Founder, YVY Technologies Raipur (C.G.)

Dear Sir,

On Behalf of the Gurukul Mahila Mahavidyalaya, we would like to express our deepest and sincere appreciation for your insightful workshop on "Printed Circuit Board (PCB) Design & Sensor Applications". It was very interesting and informative as evidenced by the attendance and participation from our students.

Thanks a lot for conducting such a knowledgeable workshop at our institute and we appreciate your continued support.

Dr. Teenu Dubey Secretary

Science Council

Gurukul Mahila Mahavidyalaya

Raipur (C.G.)

Principal

Gurukul Mahila Mahavidyalaya

Raipur (C.G.)





संचालित भातखण्डे ललितकला शिक्षा समिति, गांधी चौक, रावपुर (छत्तीसगद) पंजीवन क्रं. 16/51-52

рніф: 4083 24.

Raio : 23/10/24

### Department of Science Letter of Appreciation

To,

Mr. Manish Yadav Member, YVY Technologies Raipur (C.G.)

Dear Sir,

On Behalf of the Gurukul Mahila Mahavidyalaya, we would like to express our deepest and sincere appreciation for your insightful workshop on "Printed Circuit Board (PCB) Design & Sensor Applications". It was very interesting and informative as evidenced by the attendance and participation from our students.

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Dr. Teenu Dubey Secretary

Science Council

Gurukul Mahila Mahavidyalaya

Raipur (C.G.)

Principal

Gurukul Mahila Mahavidyalaya

Raipur (C.G.)



# पुरुकुल महिला महाविद्यालय



एतीसगढ शासन तथा पंडित रविशंकर शुक्त विश्वविद्यालय सवपुर से संवंध गुरुकुल परिसर, कालीवाडी रोड, सवपुर (छ.ग.) ई-मेल : Info@gurukuliasput.com.Website : www.gmm.ac.in

संवासित भातखण्डे ललितकला शिक्षा समिति, गांधी चौक, रावपुर (छत्तीसगद) पंजीयन क्रं. 16/51-52

вню: 4083 2 Y

Raite: 23/10/24

### Department of Science Letter of Appreciation

To,

Ms. Varsha Yadav Member, YVY Technologies Raipur (C.G.)

Dear Madam,

On Behalf of the Gurukul Mahila Mahavidyalaya, we would like to express our deepest and sincere appreciation for your insightful workshop on "Printed Circuit Board (PCB) Design & Sensor Applications". It was very interesting and informative as evidenced by the attendance and participation from our students.

Thanks a lot for conducting such a knowledgeable workshop at our institute and we appreciate your continued support.

Dr. Teenu Dubey Secretary Science Council

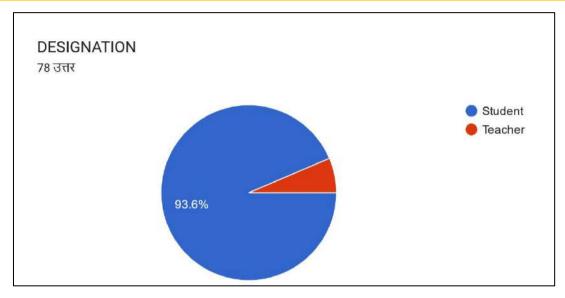
Gurukul Mahila Mahavidyalaya

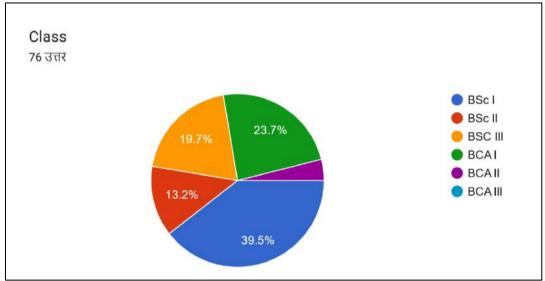
Raipur (C.G.)

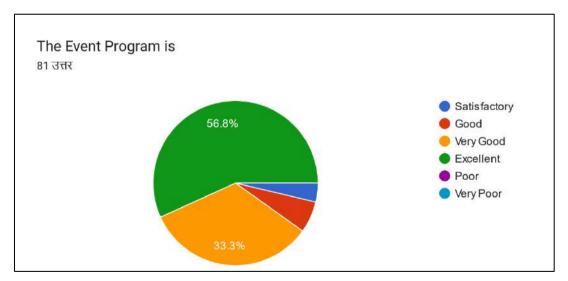
Principal

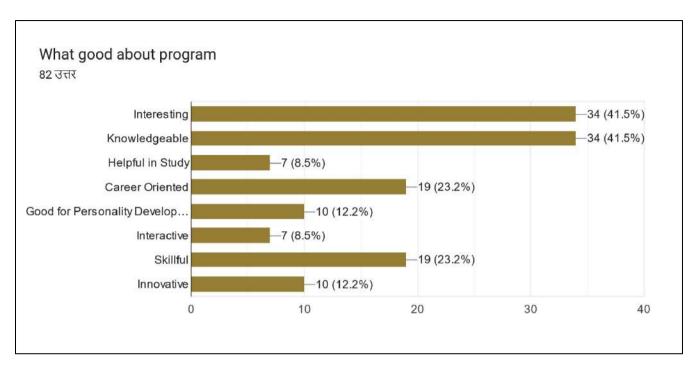
Gurukul Mahila Mahavidyalaya Raipur (C.G.)

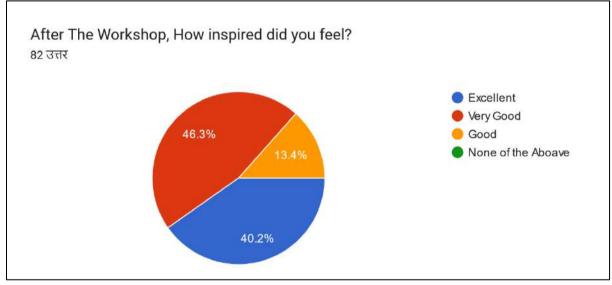
### **FEEDBACK**

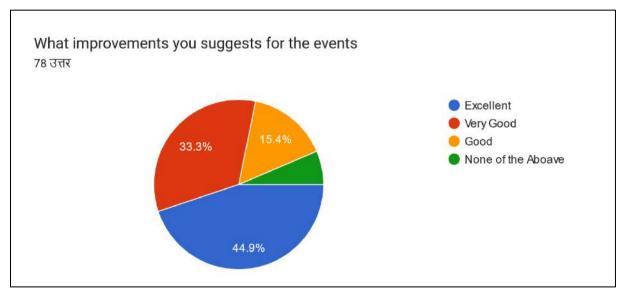












### **CERTIFICATE**





## **GURUKUL MAHILA MAHAVIDYLAYA**



KALIBADI ROAD, RAIPUR (C.G.)

# **Department of Science**

# Science Council Event



**COLLEGE TOUR PROGRAM** 

### **VISIT TOUR**

# SOMNATH MAHADEV

## RAIPUR (C.G.)

### **Session 2024-25**

### **Content**

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### **PROPOSAL**

Date:
रिमों - 11/12/2000
रिवांक र्वायो २०२५ को विमान परिषद की बैठक विभागा-
25/ 300 000
क्षिणाओं को यादाणिक भ्रमण में ज जान हत
धाराओं को यहाणिक भ्रमण में ज जार हता सभी सदस्या की सहमार में निकामित बिनुद्वा पर नयी हिया गया एवं निर्णय निया गया
त्र १० वर्षा १४ विवास वासा वासा नासा
मंदिर दिनांक 21/12/2024 को जान का
निर्णय विया गया
$(2)$ $\rightarrow$ $(2)$
हिणाओं को आमिल कीया जाएगा गिस्से
पहले आने जाले '40 विद्यार्थीयों की ही
था। मिल डिया जाएमा
8 इस हल हाया में उठा
राशी विया जीना तथ रिया गया है।
/u ()
प्रधापको दूरा भगा में अप हरू असी
प्रधान की गई। सात सावर्थिक सार्व
01) + 92 31-5912210 HI621 EIST ) SH NOW
डा सिमरन वसी एवं डो सेहा असवा
31-34127 21 370! 37-41 31-41
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विभागाध्यम् साम्य
नियम विभाग
(-7.1.)

93.F.C 		Page No	143
De Aradhana Sirgh.  Avantika Soni  Priti Sahu  Dr. Any radha Grupta  Priya Duncy  Dr. Dougher vera  Aradhana Grupta  Proja Duncy  Dr. Dougher vera  Aradhana  Dr. Any radhana  Dr. Any radhana  Dr. Any radhana  Dr. Siurae. Rvenaa	Dout Since		

### PERMISSION LETTER

प्रति, प्रचार्य गुज्जून महिना महाविद्यालय गुज्जी लाड़ी रोड,राथपुर (छ ग्रा)



वित्रम - विज्ञान विधय की धात्राओं की बीका विष्ठ अमा

महो ५या.

निर्मेदन है छि विज्ञान परिषद की ओर में पिनांन्ड 21/14/2024 कें। B.SC II/ III (Bio+PCM)+(S) की धानाओं। को। में बिजिन अमण के लिए स्वामनाथ्य मंदिर, सिमगा, जिला- बेमेत्या (द्वा) ते जाने का आयो जन किया जाना है | जिसमे पात: 8:00 बजे departure व 6:30 P.M. तक वापसी का अर्थक्रम तथ है, बसमें। 28 द्वानाओं जाने का के लिए इच्हुक है, इस हेतु द्वानाओं के पातकों से भी अनुमान के ली आएगी। अतः आपसे निवेदन है छि स्थ

आयोजन के लिए अनुमति प्रदान करें। जिसमे धाओं की सुरहा की जिम्मेपरी सभी विज्ञान प्रध्यापकों की होगी। प्रध्यापक व द्वानाओं के नाम आवेपन के साथ संल्वन है।

धन्यवाद

19-11-00 - 19/12/24

भवदीय 1 डॉ टीन दुब प्रिण्य (सिन विज्ञान परिषद) २ डॉ वहप्ना भग्नेवाल (M) HOD विज्ञान विभाग

### **NOTICE**

### गुरुकुल महिला महाविद्यालय, रायपुर (छ.ग.)

#### 👉 👉 सूचना 👈 👈

बीएससी अंतिम वर्ष के सभी छात्रों को सूचित किया जाता है कि दिनाँक 21/12/2024 को शैक्षणिक भ्रमण (picnic) जाने का निर्णय लिया गया है। जिसके लिए 300/-फीस, 16/12/2024 तक जमा कर अपना जाना सुनिश्चित करें।

स्थान : सोमनाथ मंदिर सिमगा

समय : 21/12/2024

प्रातः ७ बजे

अधिकतम छात्रा संख्या 40

### **ATTENDANCE SHEET**

#### गुरुकुल महिला महाविद्यालय कालीबाड़ी रोड़, रायपुर विज्ञान परिषद -शैक्षणिक भ्रमण

दिनांक - 21/12/2024

स्थान - सोमनाथ (सिमगा)

समय -8 AM TO 6 PM

क्र.	नाम	कक्षा	मोबाईल नंबर	राशि	अनुमति	हस्ताक्षर
	दुर्गा साहू	B.Sc. II	8827789259	300l-	~	Drahy
2.	नेहा यादव	B.Sc. II	7415064537	3001-	~	Margan
3.	निक्रिता काँबरे	B.Sc. II	7772902588	300/-	~	ritiaita
4.	सानिया अली	B.Sc. II	6266289267	300/-	~	Fantya
5.	कशिश वर्मा	B.Sc. II	6264542970	300/-	~	tothish Verno
6.	रिया सिंह	B.Sc. II	9575558183	300/-	~	Blogh
7.	पुजा यादव	B.Sc. II	9685298041	300/-	V	Pootavado
8.	तृष्णा वर्मा	B.Sc. II	7803016883	300/-	~	trish
9.	रक्षा जायसवाल	B.Sc. III	7470900305	300/-	~	they.
10.	अर्पिता वर्मा	,B.Sc. III	7566390039	300/-	~	Aprila.
11.	वर्षा मिश्रा	B.Sc. III	9203830822	3001-		amishora -
12.	कामना धुव	B.Sc. II	6265319599	3001-	V	Kamna Dtor
13.	पायल रजक	B.Sc. III	9399923370	300/-		tayal
14.	लुबना फातिमा	B.Sc. III	9893787759	3001-	~	Lubna
15.	संध्या साहू	B.Sc. III	7879161324	3001-	~	Blaky
16.	कुसुम साहू	B.Sc. III	8103260130	300/-	~	ABSEN7
17.	हिमानी निषाद	B.Sc. III	8602327198	300/-	~	Rishel
18.	जान्हवी मन्नाडे	B.Sc. III	8839605788	300/-	~	Janhu!
19.	तन्नु साहू	B.Sc. II	9303601541	300/-	~	Tooly
20.	करिश्मा भारती	B.Sc. III	8821954414	3001-	~	Jours hur
21.	राधिका सोनवानी	B.Sc. III	9770249861	300/-	~	Raelholder
22.	पूजा माहेश्वरी	B.Sc. III	7828522950	300/-	~	Povja
23.		B.Sc. III	7587291959	300/-		ABSENT
24.	0 0	B,Sc. III	7247004688	3001-	~	Touks
25.	0.4-	B.Sc. II	7067107978	300/-	V	Pais
26.		B.Sc. II	6268507176	300/-		chorba
		B.Sc. III	8349485239	300/-	~	de
27.	पायल यादव	B.Sc. II	8839737955	300/-		Bayal.

### विज्ञान परिषद -शैक्षणिक भ्रमण

दिनांक - 21/12/2024

स्थान - सोमनाथ (सिमगा)

समय -8 AM TO 6 PM

क्र.	नाम	कक्षा	मोबाईल नंबर	उपस्थिति (सुबह)	उपस्थिति (शाम)
	दुर्गा साहू	B.Sc. II	8827789259	Bealy	Asalus
2.	नेहा यादव	B.Sc. II	7415064537	Madou	Maelan
3.	निभिता कावर	B.Sc. II	7772902588	KO	NETO
1.	सानिया अली	B.Sc. II	6266289267	Dansy	nanes.
5.	कशिश वर्मा	B.Sc. II	6264542970	Kashish Venma	Kashish Venma
6.	रिया सिंह	B.Sc. II	9575558183	Riva Singh	Ringh
7.	पुजा यादव	B.Sc. II	9685298041	Pooja yada	Prose yerda
В.	तृष्णा वर्मा	B.Sc. II	7803016883	tristage	- bash
9.	रक्षा जायसवाल	B.Sc. III	7470900305	there.	There !
10.	अर्पिता वर्मा	B.Sc. III	7566390039	Arnita.	Anjula
11.	वर्षा मिश्रा	B.Sc. III	9203830822	amisher 9	Omishale
12.	कामना ध्रुव	B.Sc. II	6265319599		Homra Drawle
13.	पायल रजक	B.Sc. III	9399923370	ayal	Preyal
14.	लुबना फातिमा	B.Sc. III	9893787759	Lubra	lubna
15.	संध्या साहू	B.Sc. III	7879161324	Dealy	· sandly a
16.	कुसुम साहू	B.Sc. III	8103260130	ABSENT	A-BSENT
17.	हिमानी निषाद	B.Sc. III	8602327198	Himani	1'jarani
18.	जान्हवी मन्नाडे	B.Sc. III	8839605788	Janhvi	Janheri
19.	तन्तु साहू	B.Sc. II	9303601541	Techy	TO PORTY
20.	करिश्मा भारती	B.Sc. III	8821954414	Tour As	Malaly
21.	राधिका सोनवानी	B.Sc. III	9770249861	Redhiley	Radlilian
22.	पूजा माहेश्वरी	B.Sc. III	7828522950	Pooja	Posp
23.	मनीषा बघेल	B.Sc. III	7587291959	ABSENT	ABSENT
24.	तारिका बिसेन	B.Sc. III	7247004688	Taulka	Tavike
25.	मानसी बैस	B.Sc. II	7067107978	Mais	(Maar)
26.	वर्षा चंद्राकर	B.Sc. II	6268507176	Varia	Justa
27.	सूमन वर्मा	B.Sc. III	8349485239		8
28.	पायल यादव	B.Sc. II	8839737955	Jayal.	Loyal

#### प्रभारी प्राध्यापक -

1. डॉ. वंदना अग्रवाल

2. डॉ. टीनू दुबे

3. डॉ. अराधना सिंग

4. डॉ. सीमा चंद्राकर

5. डॉ. सिमरन आर. वर्मा

6. डॉ. देवश्री वर्मा

7. प्रीति साहू

8. अंवतिका सोनी

9. प्रिया दुबे

10. अंशिका दुबे

#### विज्ञान परिषद -शैक्षणिक भ्रमण

दिनांक - 21/12/2024

स्थान – सोमनाथ (सिमगा)

समय -8 AM TO 6 PM

क्र.	नाम	कक्षा	मोबाईल नंबर	उपस्थिति (सुबह)	उपस्थिति (शाम)
1	दुर्गा साहू	B.Sc. II	8827789259	Dealy	asaku
2	नेहा यादव	B.Sc. II	7415064537	Madar	Nyadan
3	निक्ति कॉ बरे	B.Sc. II	7772902588	Mikey	Ni Kaga
4	सानिया अली	B.Sc. II	6266289267	Manua 7	Sounte
5	कशिश वर्मा	B.Sc. II	6264542970	Folkith young	
6	रिया सिंह	B.Sc. II	9575558183	Dingh	Queh
7	पुजा यादव	B.Sc. II	9685298041	Ponjarada	Veroja yada
8	तृष्णा वर्मा	B.Sc. II	7803016883	- tush	-
9	रक्षा जायसवाल	B.Sc. III	7470900305	tal.	Day.
10	अर्पिता वर्मा	B.Sc. III	7566390039	Arnita	Annota

प्रभारी प्राध्यापक -

1 डॉ. अराधना सिंग

2 अंवतिका सो ी

### विज्ञान परिषद -शैक्षणिक भ्रमण

दिनांक - 21/12/2024

स्थान - सोमनाथ (सिमगा)

समय -8 AM TO 6 PM

क्र.	नाम	कक्षा	मोबाईल नंबर	उपस्थिति (सुबह)	उपस्थिति (शाम)
11	वर्षा मिश्रा	B.Sc. III	9203830822	Amishara -	& Oppichard
12	कामना ध्रुव	B.Sc. II	6265319599	KambantonyVe	11
13	पायल रजक	B.Sc. III	9399923370	Payal	Tayal.
14	लुबना फातिमा	B.Sc. III	9893787759	Lubna	Libra
15	संध्या साहू	B.Sc. III	7879161324	Sandhya	Soundhyp
16	कुसुम साहू	B.Sc. III	8103260130	Absent	Absent
17	हिमानी निषाद	B.Sc. III	8602327198	Aishul	Dishere
18	जान्हवी मन्नाडे	B.Sc. III	8839605788	Janhri	Janni
19	तन्नु साहू	B.Sc. II	9303601541	T. Sohu-	Tsalma
20	करिश्मा भारती	B.Sc. III	8821954414	Larishn	Kovishmen

### विज्ञान परिषद -शैक्षणिक भ्रमण

दिनांक - 21/12/2024

स्थान – सोमनाथ (सिमगा)

समय -8 AM TO 6 PM

豖.	नाम	कक्षा	मोबाईल नंबर	उपस्थिति (सुबह)	उपस्थिति (शाम)
я۰.		B.Sc. III	9770249861	Rudhilea	Dullile
21	राधिका सोनवानी	- Marie Company		Faching	Donio
22	पुजा माहेश्वरी	B.Sc. III	7828522950	P0039	10019
23	मनीषा बघेल	B.Sc. III	7587291959	ABSENT AS	ABSENT
24	तारिका बिसेन	B.Sc. III	7247004688	Touks	TouriKa
25	मानसी बैस	B.Sc. II	7067107978	Osvig	Dear
26	वर्षा चंद्राकर	B.Sc. II	6268507176	Jassha	(Fresha
100000	M 22 = 32	B.Sc. III	8349485239	ak-	-
27	सूमन वर्मा	72 M. S.	2200727055		(Varal.
28	पायल यादव	B.Sc. II	8839737955	Loyel.	Signer

प्रभारी प्राध्यापक -

1 अंशिका दुबे

2 प्रिया दुबे

### **AIM AND OBJECTIVES**

The aim of this educational/spiritual tour is to deepen students connection with spirituality, seeking personal growth, gain insight and understanding through exploring different beliefs and practices. To find inner peace and potentially experience a sense of connection to a higher power or the divine are often achieved by visiting sacred sites or participating in rituals associated with a particular faith and tradition.

According to research, nature can help improve students academic performance by improving their attention, ability to concentrate, self-discipline, fitness and mental health. Archeology offers students an opportunity to use and develop critical thinking skills such as observation, interpretation, deduction inference and classification.

#### **OBJECTIVES**

- Understanding Culture
- > To learn about different spiritual traditions and practices from diverse culture.
- ➤ To promote sensitivity towards preservation of cultural heritage.
- ➤ To foster a deeper connection with oneself, nature and a higher power.
- ➤ To use the experience to promote emotional healing and personal transformation.

#### WHY WE SELECTED THIS DESTINATION?

The day selected for this tour was 21 December which is "World Meditation Day" and United Nation General Assembly promotes to raise awareness of meditation's ability to improve mental and physical health, enhance focus and spread positivity. And what could be better than this if students do meditation in natural environment on this special day. Meditation can significantly improve focus and concentration by training the mind to stay present and reduce distractions. This is crucial for students academic success and productivity.

And also after a long academic session, students need a study break so that they can refresh and then prepare for the final exams with more enthusiasm, energy, attention and concentration. Also the students were more excited to have a nature visit on the bank of river that was quite different experience from the usual educational tour or industrial visit.

#### GENERAL INFORMATION ABOUT THE SOMNATH TEMPLE

Somnath temple is situated in Bemetara district of Chhattisgarh state, which is located at a distance of about 43 kilometers from the capital Raipur. Somnath Dham besides being a centre of faith, is also a beautiful tourist destination of Chhattisgarh. The shiva temple located here is said to be of the seventh-eighth century, thus this temple is ancient as well as of archaeological importance.



The Somnath temple of Chhattisgarh is also situated at the sangam of two rivers. One of these river is the Shivnath river which originates from the hill located at Ambagarh Chowki in Rajnandgaon district of Chhattisgarh and the other is the life-giving Kharun river of Raipur city, which originates from Dhamtari district.

The holy land where these two rivers meet is the same place where the temple of Lords of Gods, Mahadev is situated.



People here say that the shivlinga in the temple which is now about three and a half feet tall, used to be three feet tall earlier, which means its height is increasing every year. Its colour also changes according to the season and sometimes it looks black, brown and light red.

Apart from the main temple, temples of other deities have been built here like Radhakrishna, etc. Other artistic idols can also be seen in the temple premises. Being the sangam of rivers the environment around the Somnath temple is full of greenery. There are a large number of karanja trees here which are quite dense, which gives the feeling of forest.

A garden has been developed near the temple in which swings etc. have been installed for children. Due to the entertainment arrangements for children this place has become a center of attraction for the nearby villagers as well.

### **PHOTOGRAPH**





### **ROUTE MAP**























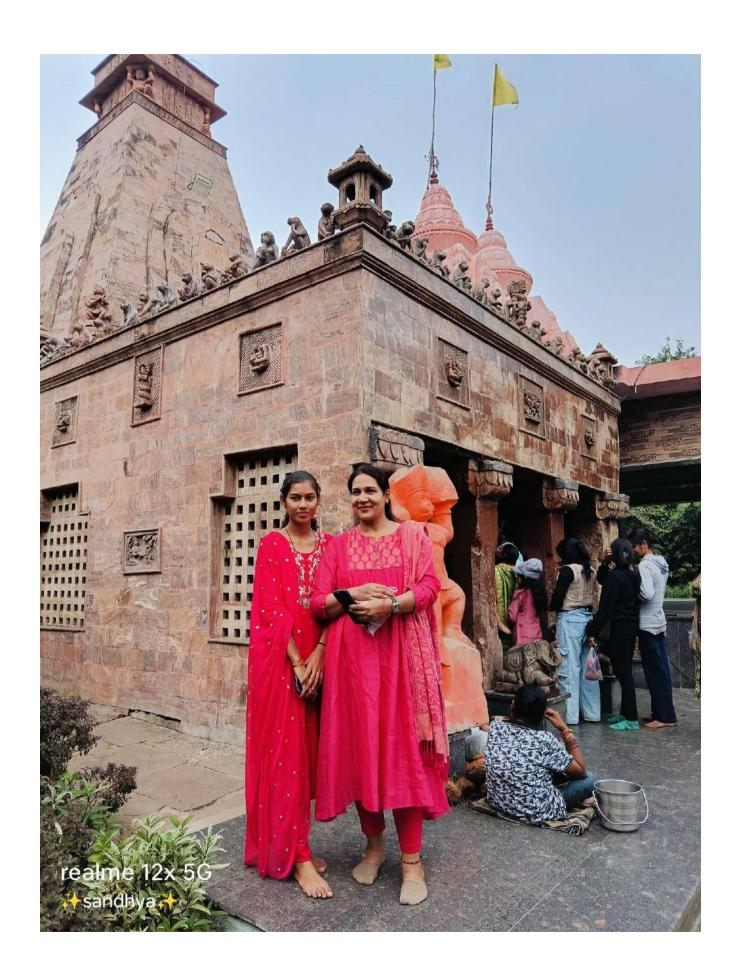


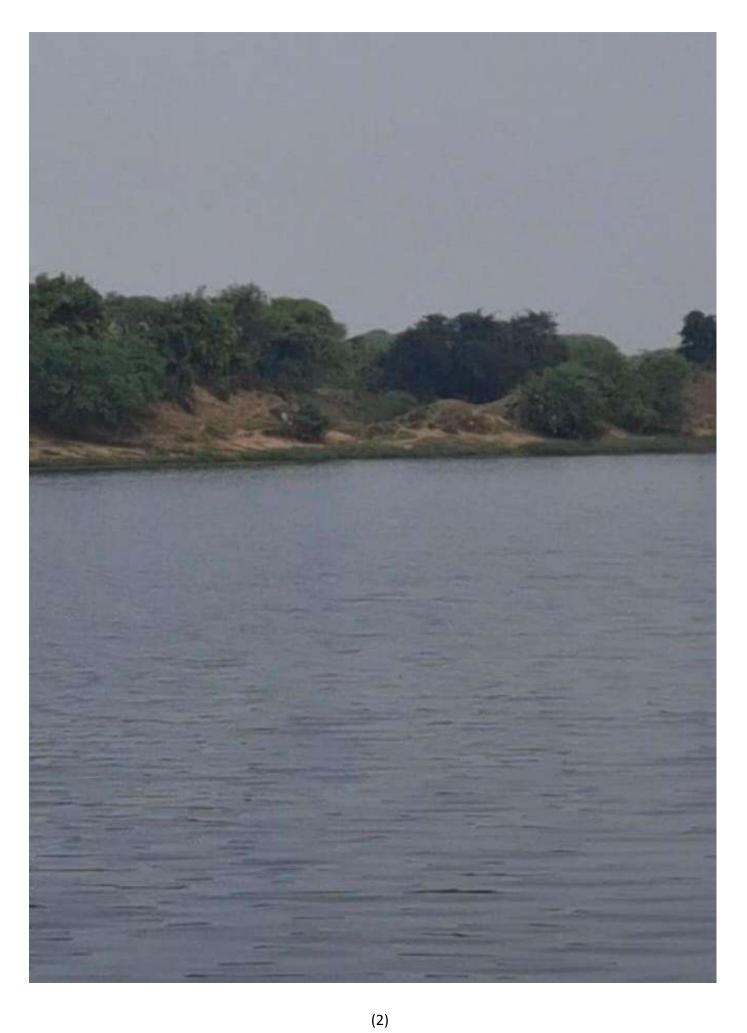






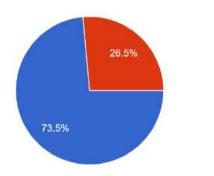
**Celebrating ... World Meditation Day** 





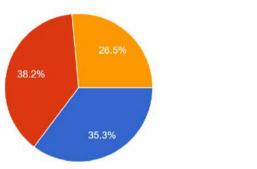
### **FEEDBACK**





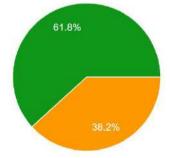


#### Class 34 responses





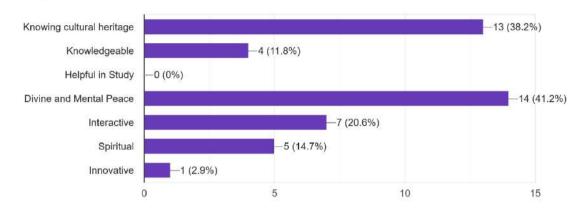
### The Trip was 34 responses





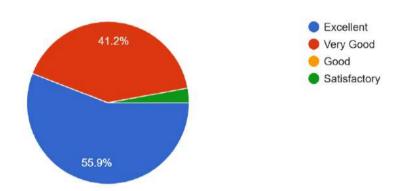
#### What was good about trip?

34 responses



#### How satisfied were you with the overall experience?

34 responses





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### **Thank You**



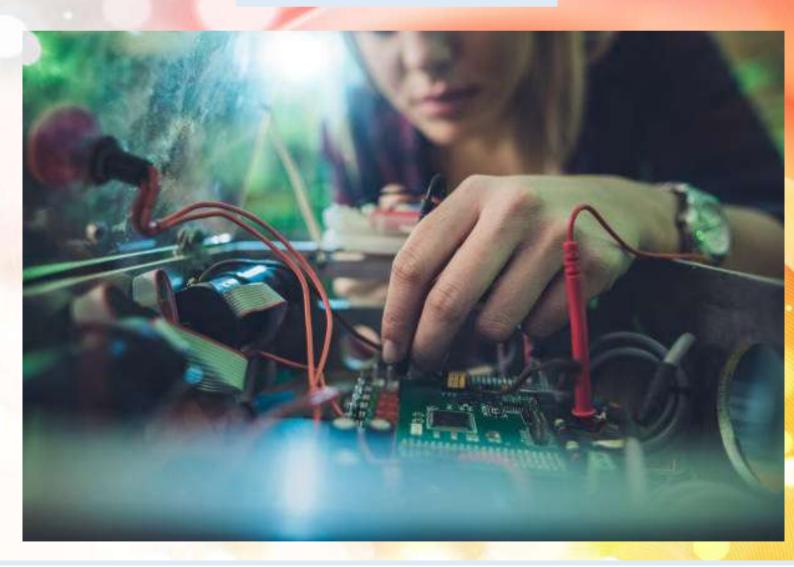


### **GURUKUL MAHILA MAHAVIDYALAYA**

KALIBADI ROAD, RAIPUR (C.G.)

# Workshop of BASIC ELECTRICAL SKILL

**Session 2024-25** 



Department of Science Gurukul Mahila Mahavidyalaya, Raipur (C.G.)

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### **Proposal**

## Proposal for Workshop on Basic Electrical Skills at Gurukul Mahila Mahavidyalaya, Raipur C.G

Subject: Proposal for Hands-on Workshop on Basic Electrical Skills

Respected Principal/Coordinator,

Greetings from YVY Technologies!

We are pleased to propose a hands-on training workshop for the students of Gurukul Mahila Mahavidyalaya, Raipur C.G. This workshop aims to provide practical exposure in the field of basic electrical skills, wiring, troubleshooting, and appliance repair, helping students gain essential knowledge and hands-on experience.

#### Workshop Details:

- Duration: 2 Days (17th & 18th March 2025 at 9AM)
- Mode: Offline (On-campus training)
- · Target Audience: B.Sc. and M.Sc. students
- · Trainer: Expert instructors from YVY Technologies with industrial experience

#### Workshop Objectives:

- 1. To familiarize students with basic electrical tools and their applications.
- To introduce students to electrical measuring instruments like voltmeters, ammeters, and electronic balances.
- To provide hands-on training in extension board design and construction.
- To train students in appliance repair and troubleshooting, including fans, electric kettles, electric presses, and coolers.
- To enhance problem-solving skills through practical demonstrations and live projects.

#### Topics to be Covered:

- Day 1: Use of Basic Tools (Screwdriver, Pliers, Wrench, Hacksaw, Spanner, Electric Drill, Soldering Iron) and Measuring Instruments (Voltmeter, Ammeter, Electronic Balance).
- Day 2: Hands-on training on Extension Board Design & Construction, along with Repair & Troubleshooting of Electrical Appliances (Fans, Electric Kettles, Electric Presses, Coolers).

#### Requirements from College:

To conduct the workshop effectively, we request the following facilities:

- 1. Classroom/Lab space with seating arrangements.
- Whiteboard for explanations.
- Basic electrical components & kits (if available).
- 4. Power supply.

#### Conclusion:

This workshop will provide **practical exposure and technical expertise** to students, preparing them for academic and industrial challenges. We look forward to collaborating with Gurukul Mahila Mahavidyalaya, Raipur C.G to empower students with **essential electrical skills**.

For further discussions, feel free to contact us at 9301111042 or visit our office at YVY Technologies, Raipur.

Looking forward to your positive response!

Best Regards, Yagyavalkya Dewangan

YVY Technologies Raipur (C.G.)

### **Proposal**

BSE IInd SEM.

Puroposal for SEC for BSE (M/es) students

Name of course - Basic electrical skill As per syllabus of univeresty objective SEC is compulsary for 2rd sem students. Pool is designed by univerently board of study and student have to opt any one from the pool, students of our college of Bse 2rd sem (M + cs) have opted Basic electrical skill. This course is totally skill enhancement course and pureHeal based subject. As per syllabus of this course theory and Phaetical has to be taught to students. pleastical paset of this course is based on depairing of electrical appliances. As college has no depaining workshop, we have to awange 2 or 3 days theaining phogenam to county out pues cribed pleasticals. For giving turining of hepaining we have to invite expect. For this purpose, I Dr. Anoradha Cupta, Dept of physics is to submitting purposal.

- + Tentative date of workshop 17/3/25 & 18/3/25
  - Name of expent Yagvalkya Dewargan tounder, yvy technologies
  - Total no. of students (37)
  - Purposed expenditure -
    - 1) Remuneration to expect 4000 |-
    - 5000 -2) Expenses for tool
    - 3) Total amount heavised -9000 -
  - \* Registuation fees from students -37×1001-= 37001-
  - \* contribution toom collège 53001 -
  - \* syllabus is enclosed.

This puoposal is submitted for appleaval.

Aura alle 12/3/25 Do. Arwadha Gupta Asst. professor Physics Department ourokul Mahila mahavidyalaya, Raipur.

### **Notice**

#### **Notice**

#### There is a workshop of physics on 18th and 19th March

Registration fees: 100 rupees

Timing 9:00 am to 1:00 pm :

Note: it is compulsory to attend the workshop for every student

Dr. Anuradha Gupta

Asst. Prof. (Physics) Science Department Gurukul Mahila Mahavidyalaya Raipur (C.G.)





### **Attendance Sheet**

#### **B.SC II SEMESTER 2025 -CS**

DATE 18/03/2025

s.NO.	Candidate's Name	Mobile No.	SIGNATURE
1	AKTA DEWANGAN	6260054950	Akta_
2	ANJALI MARKO	7389813119	Anjali Marko
3	IRAM FATIMA	7067998338	- foram
4	JANHVI DHRUW	9981559501	Hankiy_
5	JIGYASA CHOUBEY	8602121904	digupoa.
6	KARUNA SAHU	9755390981	Bonjber
7	KHUSHI SAHU	7828929817	khushi sahu.
8	LOMIN GAYAKWAD	6264451570	Domin
9	MAMTA DEWANGAN	8269467456	Marita
10	MANISHA SAHU	9713563998	mahy
11	MANSI SAHU	6268814817	-online closs-
12	NAVANI SONI	7225917988	Mourin
13	NILIMA DEWANGAN	9826152203	Willima Downgan
14	NIRJALA YADAV	8435784155	Diripse
15	PALLAVI CHANDRAKAR	7999338502	Tatlati
16	POOJA THAKUR	9343479774	Roser,
17	RASHMI NAYAK	9399768764	Raghm
18	RESHMA	9098048897	toshie :
19	ROHIT KUMAR	7440632166	200
20	SEJAL DEWANGAN	6260798482	&yd!
21	SHREYA VISHWAKARMA	7999745140	TOTAL STATE OF THE
22	SMRITI VERMA	7354320260	Muriti
23	SNEHA AGRAWAL	9926704750	Breha
24	SUMAN SAHU	7771048054	Sumas
25	SUMAN YADAV	9754159380	dunan_
26	SUPRIYA KASHYAP	7646821808	Supling _
27	TANU SAHU	6268881235	Tang Saha.
28	TILENDRI NAG	6260702752	Zuhohri -
29	TRISHLA YADU	9343356126	Lagacus

#### B.SC II SEMESTER 2025 -PCM

S.NO.	Candidate's Name	Mobile No.	SIGNATURE
1	ARCHANA SAHU	9754800836	Anchaus Jahr
2	BINDU YADAV	6263006512	Maidan
3	GEETANJALEE CHOUDHARY	7828756563	GURNIALLE
4	MADHU	8109378709	Dhishad
5	NIKITA KAWRE	7772902588	HEE
6	RUCHITA SAHU	8120677145	Duluta
7	UPASANA THAKUR	7746036915	Upadana
8	VEENA SAHU	7723972395	VECOM

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DATE 19/03/2025

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6	RUCHITA SAHU	8120677145	Belletin
7	UPASANA THAKUR	7746036915	Upasana .
8	VEENA SAHU	7723972395	Caha

### **List of Electrician Tools**





### **Photograph**

















### **Press Release**

### **PRESS RELEASE**

गुरुकुल महिला महाविद्यालय मं"बेसिक इलेक्ट्रिकल स्किल" पर दो दिवसीय कार्यशाला



### पॉजिटिव इंडिया; रायपुर.

पुरुकुल महिला महाविद्यालय कालीबाड़ी रोड, रापपुर के विज्ञान विभाग द्वारा दो दिवसीय कार्यशाला का आयोजन किया गया। कार्यशाला YVY टेक्नोलॉजी द्वारा NEP,SEC के पाठ्यक्रमानुसार बेसिक इलेक्ट्रिकल स्किल पर आयोजित की गई। कार्यशाला में व्हाय वी व्हाय टेक्नोलॉजी के संस्थापक श्री याज्ञवल्क्य देवांगन उपस्थित हुए। इस कार्यशाला के प्रथम दिवस में छात्राओं को बेसिक इलेक्ट्रिकल टूल्स जैसे मल्टीमीडिया, कैथोड रे, ऑस्किलोस्कोप,मैकेनिकल टूल्स जैसे स्कूड़ाइवर,पाना, रेजर ब्लेड, इलेक्ट्रिकल ड्रिल सोल्डिंग आयरन के अनुप्रयोग को समझाया गया। कार्यशाला के द्वितीय दिन एक्सटेंशन बोर्ड के डिजाइन और कंस्ट्रक्शन को सिखाया गया तथा पंखा केतली इलेक्ट्रिक प्रेस तथा कलर की रिपेयरिंग करना सिखाया गया। छात्राओं ने प्रशिक्षण के दौरान प्रशिक्षक से कार्यशाला से संबंधित कई प्रश्न पूछे जिनका समाधान किया गया। महाविद्यालय की छात्राओं प्राध्यापकों प्राचार्य की उपस्थित में कार्य संपन्न हुआ। कार्यक्रम का संचालन डॉ अनुराधा गुप्ता के द्वारा किया गया।

## गुरुकुल महिला महाविद्यालय कालीबाड़ी रोड, रायपुर के विज्ञान विभाग द्वारा दो दिवसीय कार्यशाला का आयोजन किया गया।





कार्यशाला YVY टेक्नोलॉजी द्वारा NEP,SEC के पाठ्यक्रमानुसार बेसिक इलेक्ट्रिकल स्किल पर आयोजित की गई।



कार्यशाला में व्हाय वी व्हाय टेक्नोलॉजी के संस्थापक श्री याज्ञवल्क्य देवांगन उपस्थित हुए। इस कार्यशाला के प्रथम दिवस में छात्राओं को बेसिक इलेक्ट्रिकल टूल्स जैसे मल्टीमीडिया, कैथोड रे, ऑस्किलोस्कोप,मैकेनिकल टूल्स जैसे स्क्रूड्राइवर,पाना, रेजर ब्लेड, इलेक्ट्रिकल ड्रिल सोल्डिंग आयरन के अनुप्रयोग को समझाया गया।



कार्यशाला के द्वितीय दिन एक्सटेंशन बोर्ड के डिजाइन और कंस्ट्रक्शन को सिखाया गया तथा पंखा केतली इलेक्ट्रिक प्रेस तथा कलर की रिपेयरिंग करना सिखाया गया। छात्राओं ने प्रशिक्षण के दौरान प्रशिक्षक से कार्यशाला से संबंधित कई प्रश्न पूछे जिनका समाधान किया गया। महाविद्यालय की छात्राओं प्राध्यापकों प्राचार्य की उपस्थिति में कार्य संपन्न हुआ। कार्यक्रम का संचालन डॉ अनुराधा गुप्ता के द्वारा किया गया।



home / ।वावष्ट / प्रस ।वशापत / गुरुकुत महिला महा।वद्यातय क ।वशान ।वमाग द्वारा द्वा ।दवसाय कायशाता

प्रेस विज्ञापित

### गुरुकुल महिला महाविद्यालय के विज्ञान विभाग द्वारा दो दिवसीय कार्यशाला

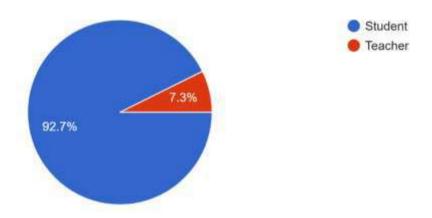




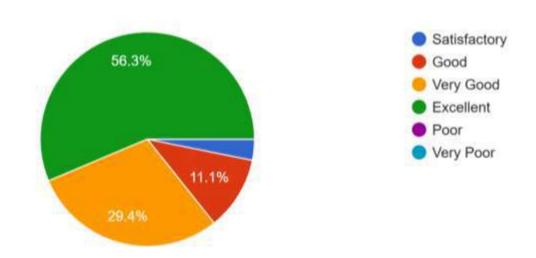
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### **FEEDBACK**

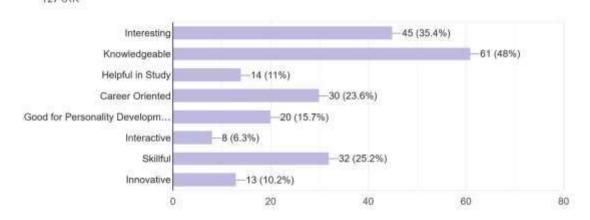
#### DESIGNATION



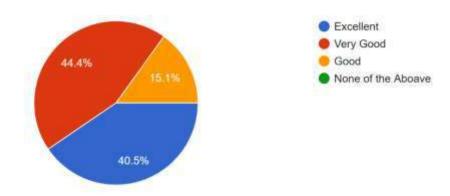
### The Event Program is



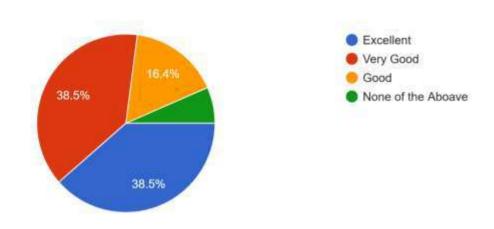
#### What good about program 127 उत्तर



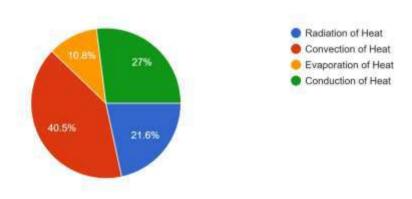
### After The Workshop, How inspired did you feel?



### What improvements you suggests for the events



In the working of Fan, Cooler - The primary principles is based on



### Certificate









# **GURUKUL MAHILA MAHAVIDYALAYA**

KALIBADI ROAD, RAIPUR (C.G.)

## **WORKSHOP ON**

# **Gardening & Floriculture**

**Session 2024-25** 



Department of Science

Gurukul Mahila Mahavidyalaya, Raipur (C.G.)

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Venue: Nature Care Nurser, VIP Road, Vishal

Nagar, Raipur

## **Proposal**

# PROPOSAL FOR SKILL DEVELOPMENT IN GARDENING AND FLORICULTURE (BOTANY)

This proposal outlines a plan to take a group of 17 students to a local nursery for hands-on-training and certification.

### **OBJECTIVES:**

- 1)To provide students with practical experience in gardening and floriculture.
- 2)To develop skills in plant care, propagation and maintenance.
- 3)To enhance students knowledge of different plant species and their uses.

#### DETAILS:

- Destination- Nature Care Nursery (Garden Center)
- Address- VIP Road, Vishal Nagar, Raipur (C.G.)
- Number of Students- 17
- Duration- 3 Days ( 9:00 am to 11:30 am)

### EXPENSES:

- Transportation- we request the institution to cover the transportation costs for the students.
- We request the institution to contribute 500/- Rupees towards training and certification fees.

### Thankyou

Sincerely, Ankita Singh Assistant Professor

# Gurukul Mahila Mahavidyalaya Kalibadi Road, Raipur (C.G.) Email: info@gurukulraipur.com, web: www.gmma.ac.in



Session: 2024-25

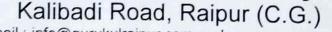
## Training Program on Gardening & Floriculture Date 07/04/2025

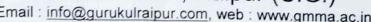
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S.N.	Name of Candidate	Class	Mobile No.	Signature
1.	ANJALI MAHANAND	B.Sc II sem	9589721290	Build
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3.	DULESHWARI RAGHUWANSHI	B.S.C II Sem	9109258887	Julgrum
4.	HIMANI THAKUR	B.Sc IInd Sem	9302882470 (	Almani
<b>3</b> .	HIMANSHI SAHU	B.Sc I sem	9644266629	benanti
6.	HIMANSHU NIRMALKAR			
7.	JAGRITI SINHA	Bsc I sem	8815685861	Janili 3.
8.	KHUSHBOO DEEP	B.S. Dsem	9109233100	Kust.
9.	KHUSHI DEWANGAN	B.Sc-II sem	82693 15 733	R
10.	KUMKUM SAHU	BSC II Sem	8817113721	Saly
11.	MAMTA BAIS	BSC II nd Sem.	8839916315	+ Being
<b>18</b>	MANSI PATEL	DSC I Sem	7999626098	Mansikla.
13.	MONIKA UPADHAYAY	Bsc I sem	9285280651	MONTE
14.	NEHA PRADHAN	B.Sc Ind Sem.	7067671867	the
15.	NIDA KHAN	B.Sc 2nd Sem	8959272561	1.Khan
16.	PRACHI SAHU	B.sc IInd sem	7898558511	Bd.
17.	PRARTHNA NARANG	BSc II. sena:	8269151684	daning
18.	PREETY PATEL			
19.	PRINCY THAKUR	BSc Ind sem.	9111057882	Priva
20.	RAJESH PATEL		9303063853	Pers

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21.	RIYA LAHARI	BSe II SEM	Mobile No.	Signature
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23.		BSC II sem. Bio	9302960064	Pix
	ROHINI SAHU	BSC-ILSEM.	934088460	Policin
24.	RUDRAKSHEE MARKAM	BSC IL SEM	9302505167	0
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27.	SHRUTI PAINKARA	BSC II sem ABSENT	8319171047	Shodali
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29.	SUNIDHI SAHU	BSC IL sem	8312130617	Suidh
30.	TARUNA VISHWASH		03/12 - (1	
11.	VEENA GOSWAMI	D.C. T. Co.	A.S. 50	
2.	VINITA	BSC IL Sem BSC. II Senusda	8770582174	Vicena

# Gurukul Mahila Mahavidyalaya Kalibadi Road, Raipur (C.G.) Email: info@gurukulraipur.com, web: www.gmma.ac.in







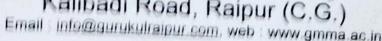
### Session: 2024-25

### Training Program on Gardening & Floriculture Date 08/04/2025

S.N.	Name of Candidate	Class	Mobile No.	Signature
1.	ANJALI MAHANAND	B-Sc Bio II Sem		Anjali
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# Gurukul Mahila Mahavidyalaya Kalibadi Road, Raipur (C.G.) Email info@gurukulraipur.com, web: www.gmma.ac.in





### Session: 2024-25

# Training Program on Gardening & Floriculture Date 09/04/2025 Attendance Sheet

S.N.	Name of Candidate	Attendance Sheet		
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1.	ANJALI MAHANAND	8.50 D 5em	9589721230	
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20.	RAJESH PATEL 8	Rec II nd Sumartee	3303063853	Paper

S.N.	Name of Candidate	Class	Mobile No.	Cianatura
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22.	RIYA MARAVI	BSCII Sem. Bio	9302960064	Piso.
23.	ROHINI SAHU		33 230 301	
24.	RUDRAKSHEE MARKAM	B.c.c. Ind Sem	9302605167	20
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31.	VEENA GOSWAMI	BSC II Sem	8770582171	Veen
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## Scope & Future Aspects

### **GARDENING:**

Gardening is the practice of cultivating and nurturing plants, often for food, recreation, or aesthetic purposes. It involves activities like:

- Planting and maintaining fruits, vegetables, herbs, and flowers
- Soil preparation and management
- Watering, pruning, and pest control
- Harvesting and enjoying the fruits of one's labor

### **FLORICULTURE:**

Floriculture is the cultivation of flowers and ornamental plants for their beauty, fragrance, and aesthetic value. It involves:

- Growing and harvesting flowers, foliage, and other ornamental plants
- Arranging and designing floral displays
- Breeding and developing new plant varieties
- Marketing and selling flowers and plants for decorative purposes

### Both gardening and floriculture offer numerous benefits, including:

- Relaxation and stress relief
- Fresh produce and beautiful flowers
- Opportunities for entrepreneurship and creativity
- Connection with nature and community

These fields can be pursued as hobbies, careers, or simply as a way to enhance one's surroundings and well-being.

## **Scope & Future Aspects**

The scope of gardening and floriculture is vast and diverse, encompassing various aspects such as:

### **GARDENING:**

- 1. Food production
- 2. Therapeutic benefits
- 3. Landscaping and design
- 4. Entrepreneurship
- 5. Research and development

### **FLORICULTURE:**

- 1. Cut flower industry
- 2. Ornamental plant production
- 3. Floral design
- 4. Event planning
- 5. Breeding and hybridization

### **COMMON SCOPE:**

- 1. Sustainable practices
- 2. Community development
- 3. Education and training
- 4. Tourism and recreation
- 5. Economic opportunities

## Scope & Future Aspects

The future of gardening and floriculture looks promising, with several trends and innovations shaping the industry. Here are some future aspects:

### **GARDENING:**

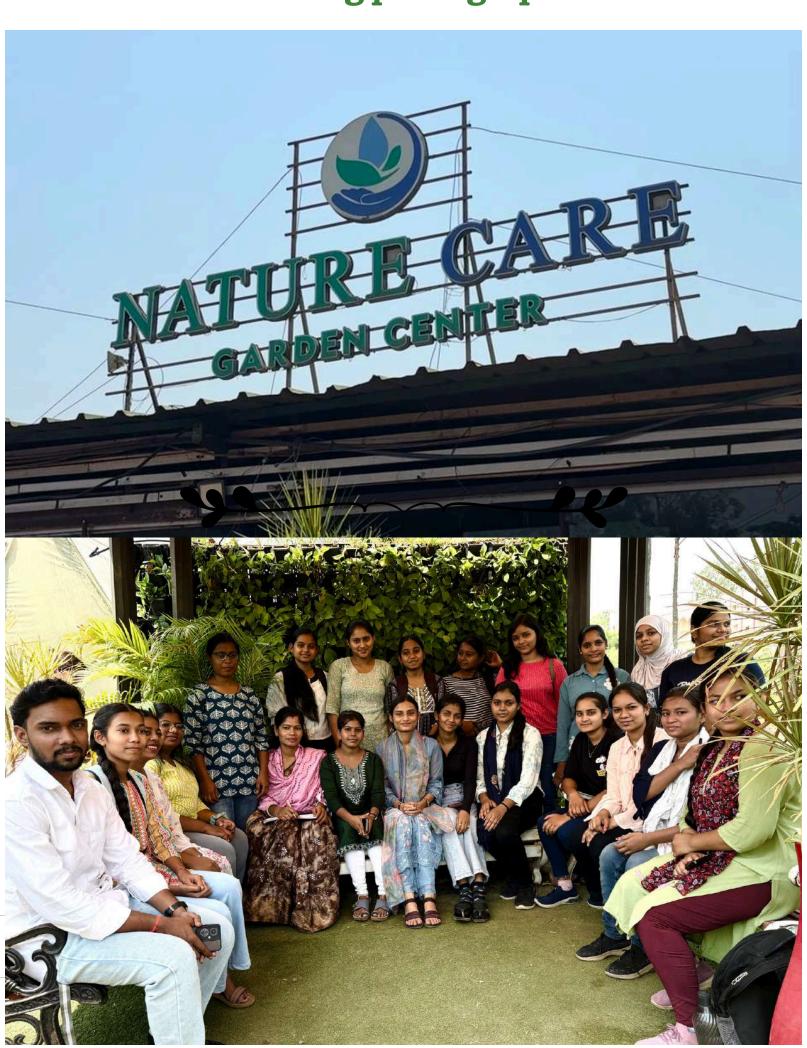
- 1. Vertical farming
- 2. Hydroponics and soilless cultivation
- 3. Smart gardening
- 4. Sustainable practices
- 5. Urban agriculture

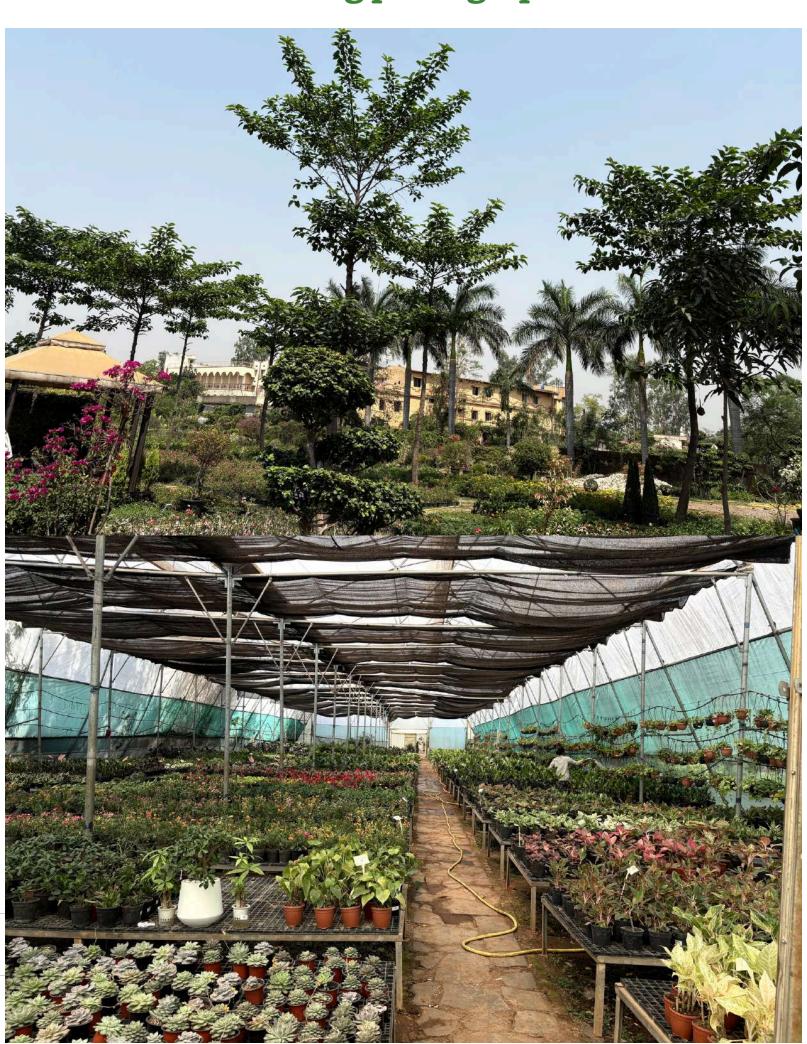
### **FLORICULTURE:**

- 1. New plant varieties
- 2. Floral design technology
- 3. Sustainable floriculture
- 4. E-commerce and online sales
- 5. Experiential marketing

### **COMMON FUTURE ASPECTS:**

- 1. Increased focus on sustainability
- 2. Technology integration
- 3. Growing demand for local and organic produce
- 4. Wellness and therapeutic benefits
- 5. Innovative business models









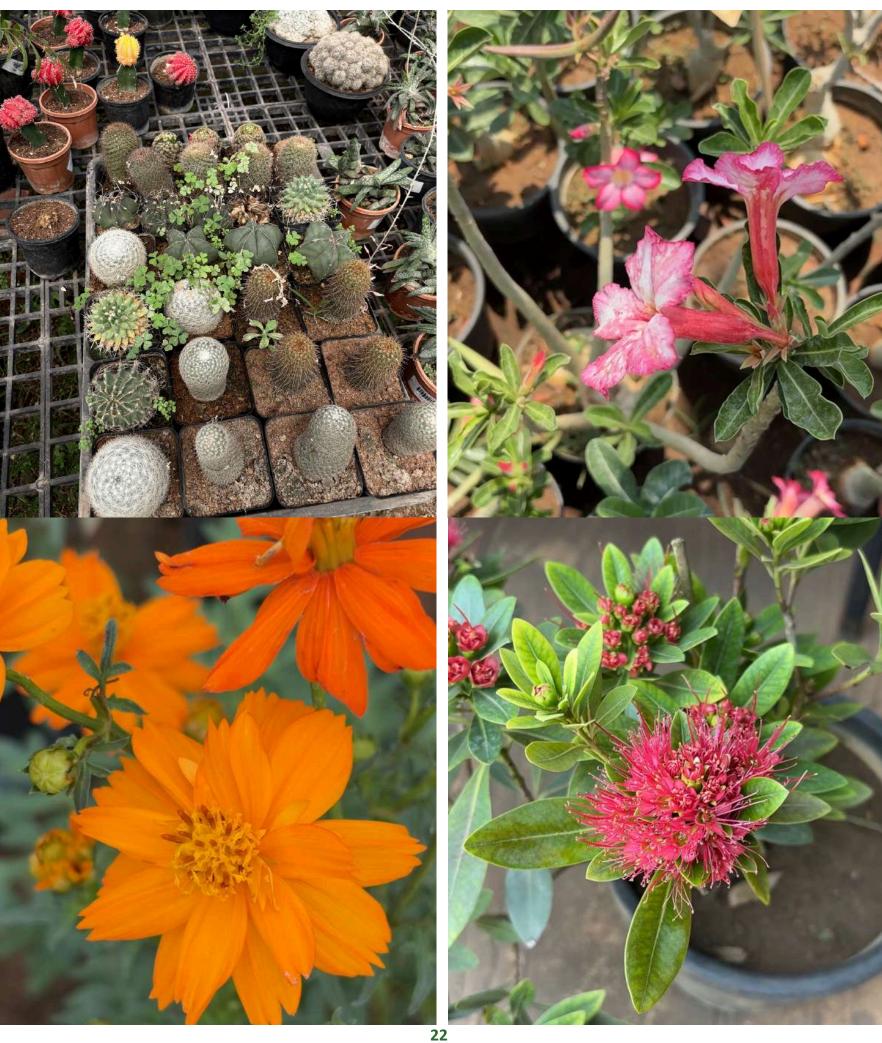


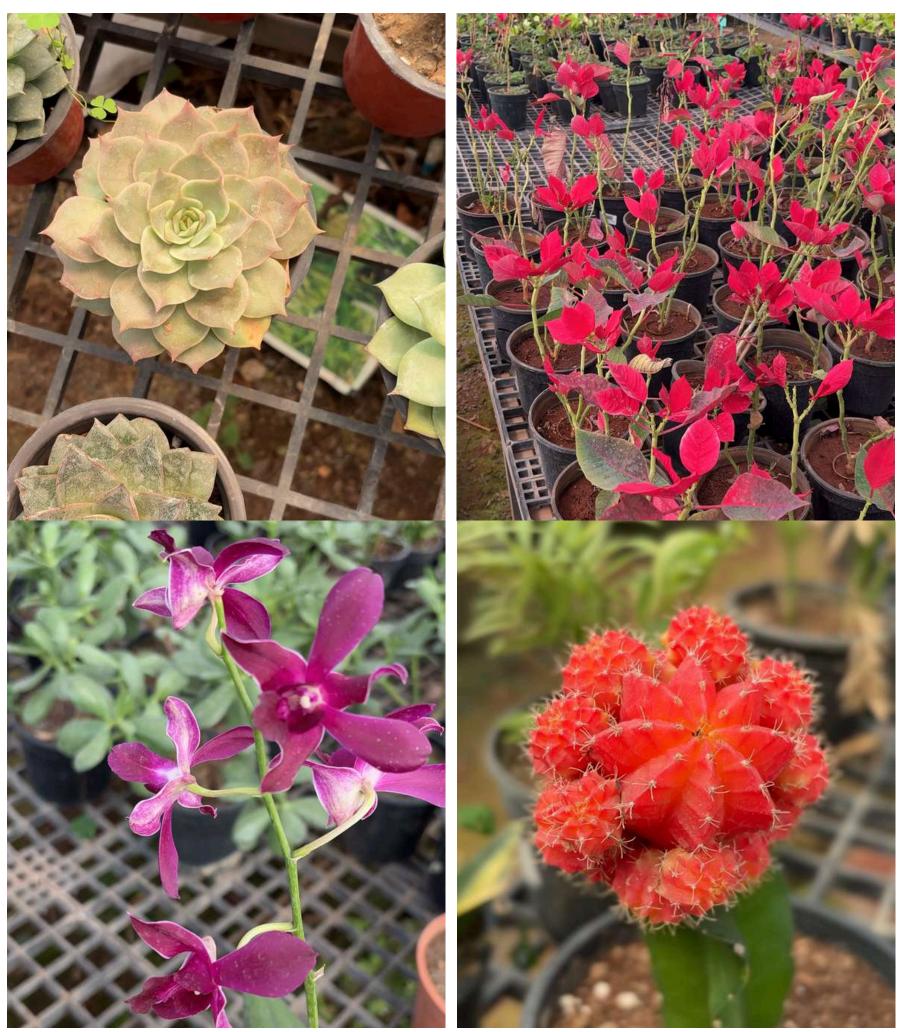






































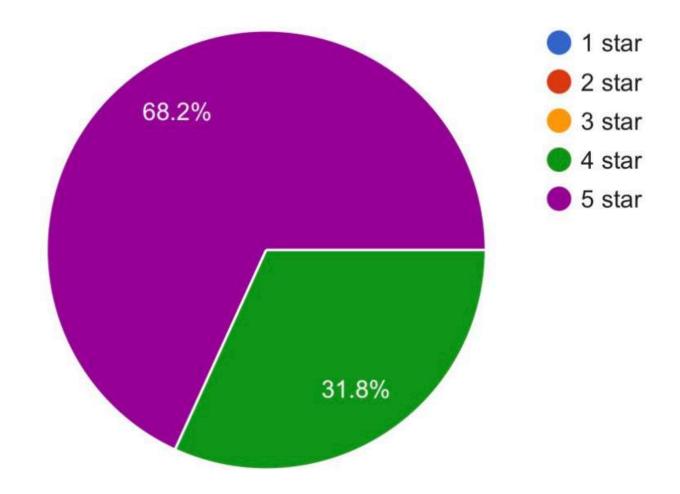




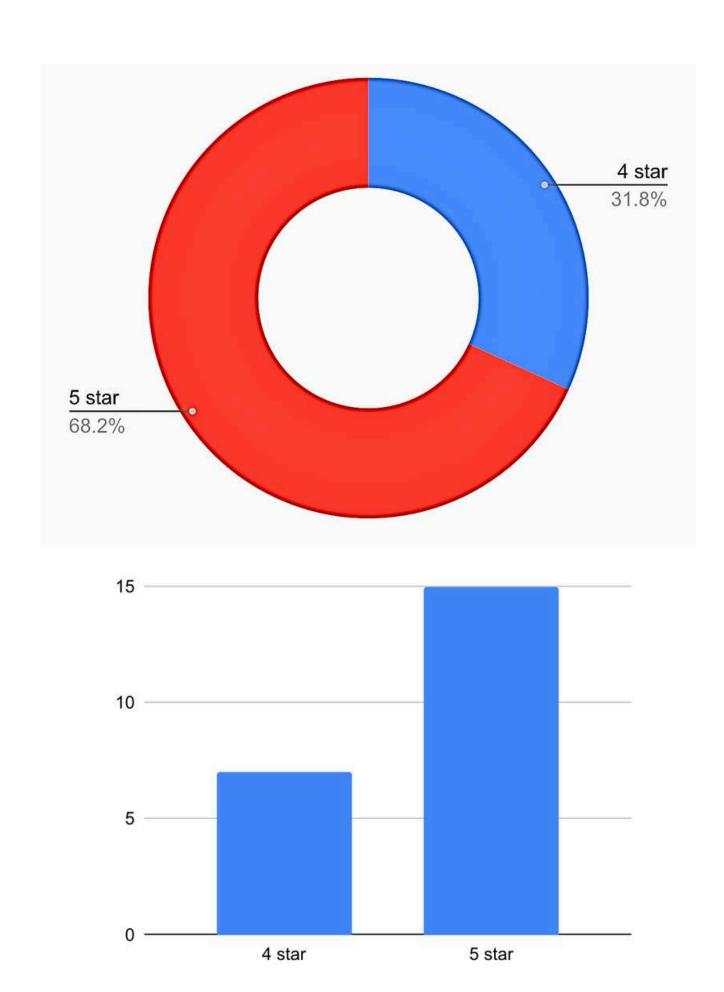
## **Feedback**

Rate the training (1-5) and provide any additional comments.

## 22 responses



## Feedback



## **Feedback**

Bio	BIC	Botany	Skill enhancement course of Floriculture and Gardening g	Gardening and floriculture a	Gardening and floriculture Botnay (gardening and floriculture)	Botany SEC Botany SEC Floriculture and gardening (SEC)	Gardening and DGE SSC BOTANY	DGE SSC BOTANY Solany	Floriculture and gurderning Gardening and Floriculture	Bio Gardening and Floriculture	Gardening and floriculture (SEC)
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### Certificate



## GURUKUL MAHILA MAHAVIDYALAYA Kalibadi Road, Raipur (C.G.)



## Gardening & Floriculture

#### **CERTIFICATE**

This is to certify that

has successfully completed her training in Gardening & Floriculture at Nature Care Nursery from April 7,2025 to April 9,2025.

ORGANIZING SECRETARY
Ankita Singh

PRINCIPAL
Dr. Sandhya Gupta

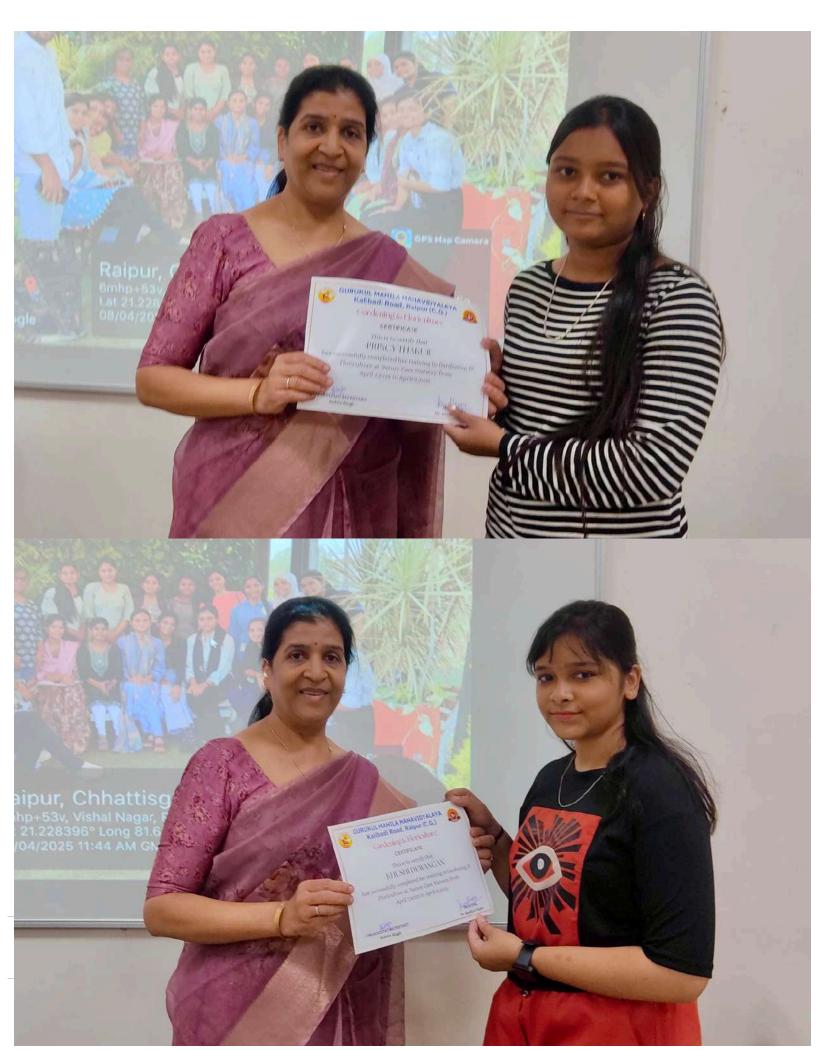
## **Certificate Distribution**



## **Certificate Distribution**



## **Certificate Distribution**



#### **Press Release**



"गुरुकुल महिला महाविद्यालय, कालीबाड़ी रोड, रायपुर के विज्ञान विभाग द्वारा तीन दिवसीय कार्यशाला का आयोजन किया गया। कार्यशाला में स्किल एन्हांसमेंट कोर्स के अंतर्गत नेचर केयर नर्सरी में गार्डनिंग एंड फ्लोरीकल्चर पर प्रशिक्षण कार्यक्रम आयोजित किया गया। इस कार्यशाला में छात्राओं ने बागवानी में उपयोग होने वाले विभिन्न औजारों, मिट्टी के पैटर्न, फर्टिंगेशन तथा लेयरिंग, कटिंग एवं ग्राफ्टिंग जैसी विभिन्न विधियों के बारे में जानकारी प्राप्त की। व्यावहारिक प्रशिक्षण छात्राओं के लिए अत्यधिक लाभकारी सिद्ध हुआ, जिससे उन्हें व्यावहारिक कौशल प्राप्त हुआ, जिसे वे अपने दैनिक जीवन में लागू कर सकती हैं। कार्यशाला की कार्यक्रम प्रभारी अंकिता सिंह थीं। "कार्यक्रम महाविद्यालय की प्राचार्य डॉक्टर संध्या गुप्ता के नेतृत्व में किया गया।

#### **Press Release**

# गार्डन केयरः बेकिंग सोडा और सिरका से करें मिट्टी की अम्लीय जांच, बुलबुले आएं तो मिट्टी अच्छी है

सिटी रिपोर्टर . रायपुर

कालीबाड़ी रोड स्थित गुरुकुल महिला महाविद्यालय में स्किल इनहांसमेंट कोर्स के तहत तीन दिवसीय वर्कशॉप का आयोजन किया गया। आखिरी दिन नेचर केयर. नर्सरी में गार्डनिंग एंड फ्लोरीकल्चर पर ट्रेनिंग दी गई। इसके लिए स्टूडेंट्स को विशाल नगर स्थित नर्सरी विजिट कराया गया। यहां एक्सपर्ट अंकिता सिंह ने बताया कि अच्छी बागवानी के लिए औजारों, मिट्टी के पैटर्न, कटिंग, ग्राफ्टिंग की जानकारी होनी चाहिए। अच्छी मिड़ी में रेत, गाद और मिड़ी का सही मिश्रण जरूरी है। यह पौधों की वृद्धि के लिए आवश्यक है। दोमट मिट्टी, जो लगभग 40% रेत,



40% गाद और 20% मिट्टी से बनी होती है, पौधों के लिए सबसे अच्छी होती है। मिट्टी का पीएच स्तर भी जानना चाहिए। अधिकांश पौधे 6.0 से 7.0 pH की अम्लीयता में अच्छे से पनपते हैं। घर पर भी इसकी जांच की जा सकती है। व्हाइट सिरका और बेकिंग सोडा मिट्टी में मौजूद अम्लता और क्षारीयता को बताता है। अगर इन्हें मिट्टी में मिलाने से बुलबुले आते हैं तो मिट्टी अम्लीय और क्षारीय है।

#### चार प्रकार की कटिंग

स्टेम कटिंग यानी तने के हिस्से से की गई कटिंग। लीव कटिंग यानी पत्तियों से की गई कटिंग। रूट कटिंग यानी जडों से की गई कटिंग। पौधों की ग्रोथ और जरूरत पर निर्भर करता है कि उनकी कटिंग कैसी करनी है। फिलहाल गर्मी के मौसम में लीव कटिंग की जाती है। ताकि पौधा में सिर्फ तना बना रहे और भीषण गर्मी को झेल सके और जीवित रहे। बरसात शुरू होते ही नई पत्तियां आ जाती हैं। पौधों के लिए नर्सरी केयर के औजार यूज करना चाहिए, ताकि वो पौधों को क्षति ना पहुंचाएं। इस मौके पर महाविद्यालय की प्राचार्या डॉक्टर संध्या गुप्ता सहित अन्य मौजूद रहे।



# Thank You





## **Gurukul Mahila Mahavidyalaya**

Kalibadi Road, Raipur (C.G.) Email :info@gurukulraipur.com, Web : www.gmm.ac.in



#### **DEPARTMENT OF SCIENCE**

**Skill Enhancement Course (SEC)** 

## **One Day Workshop and Study Tour** On **Vermiculture and Vermicomposting**



## One Day Workshop and Study Tour On Vermiculture and Vermicomposting

WORKSHOP Date: 07/04/2025

STUDY TOUR Date: 08/04/2025

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## गुरुकुल महिला महाविद्यालय, रायपुर (छ.ग.)

#### सूचना

हिनांस - 5/04/25

महाविद्यालयीन प्राध्यापकों एवं कर्मचारियों को सूचित किया जीता है कि दिनांक 07.04.2025 एवं 08.04.2025 को कार्यशाला एवं शैक्षणिक भ्रमण का कार्यक्रम आयोजित किया जायेगा। यह कार्यक्रम विज्ञान विभाग द्वारा आयोजित किया गया है जिसमें सभी विज्ञान विषय के सभी प्राध्यापकों की उपस्थिति अनिवार्य है।

- समय : 10:30 बजे

नाम

1. डॉ. मेघा अग्रवाल

2. डॉ. वंदना अग्रवाल

3. श्रीमती प्रीति साह्

4. डॉ. टीनु दुवे

5. सुश्री अंकिता सिंह

6. डॉ. आराधना सिंह

7. डॉ. अनुराधा गुप्ता

8. डॉ. सीमा चन्द्राकर

9. डॉ. सिमरन वर्मा

10. सुश्री प्रिया दुबे

11. अवनिका रोती

स्ताक्षर

July

Suradis

Dukey

Synties

ुर्हा, देवश्री वर्मा





#### **Gurukul Mahila Mahavidyalaya**

Kalibadi Road, Raipur (C.G.)

Email: info@gurukulraipur.com, Web: www.gmm.ac.in

## One Day Workshop and Training Program On Vermiculture and Vermicomposting



Date : 07/04/2025, Day : Monday

Venue : Gurukul Auditorium
Time : 11:00 AM onward

Organised By

Department of Science

Gurukul Mahila Mahavidyalaya

Kalibadi Road, Raipur (C.G.)

Contact Details :-		
Patron	Dr. Sandhya Gupta, P Email Id: info@gurukulraip	
Vice Principal	Dr. Rajesh Agrawal	
Organising Secretary	Dr. Devshree Verma Mrs. Priti Sahu	Mob. 7828636357 Mob. 7987479867
Conveners	Dr. Vandana Agrawal	Notice of the State of the Stat

#### **Registration Fees**

Category	On Spot Registration	
Student (UG /PG)	200/-	
Faculty Member	200/-	

#### Respected Sir/Madam

We are glad to inform that the Department of Zoology, Gurukul Mahila Mahavidyalaya, Kalibadi Road, Raipur (C.G.) is organizing 1 day workshop and training program on **Vermiculture & Vermicomposting**. We cordially invite the Faculty Members and Students of Higher Education to participate in the above program.

#### How To Reach The College

Raipur is well connected by Air/Rail/Road transport with different Indian cities. The College is just 4 KM apart from Raipur Railway station, 2 KM from Raipur Interstate Bus Terminal and 14 KM from Raipur Airport. Shared and reserved both kind of local conveyance is available from Railway Station and Interstate Bus Terminal but only reserved vehicles are available from Raipur Airport.

#### **About Gurukul**

Gurukul Mahila Mahavidyalaya is founded by late Dr. Arun Kumar Sen in 2001 and located in the heart of the capital city of Chhattisgarh state. Institute is providing education in science, Computer & Commerce at graduation and post-graduation level. It is affiliated to Pt. Ravishankar Shukla University, Raipur and recognized under section 2(f) and 12(b) of UGC. College is accredited with 'B +' grade with 2.68 CGPA by NAAC in year 2022.

#### About the One Day Workshop

Pt. Ravishankar Shukla University has introduced National Education Policy in HEIs from academic session 2024-25. This policy is based on Choice Based Credit System for multidisciplinary education. The main aim of this policy is to inculcate moral values and skill abilities with education.

According to syllabus Skill Enhancement Course (SEC) is one of the subjects for Second Semester students. It is evident with title of the course that the main purpose of introducing this course is to enhance skill ability of students so that they can develop entrepreneurship capability.

**Vermiculture & Vermicomposting** is part of curriculum of core subject Zoology. Vermicompost is the product of decomposition process of food waste, garden waste, vegetable peel offs using various species of worms as earthworms, redworms etc. and bedding material.

This process is called **Vermicomposting** and the rearing of worms for this purpose is called **Vermiculture**. Vermicomposting makes nutrient rich "Worm manure" and it is the end-product of the breakdown of organic matter by earthworms.

Students can learn process of vermiculture and vermicomposting in this workshop and can learn about preparation of "Worm manure" which can be easily sold. So that purpose of workshop to train and to make entrepreneurs can be fulfilled.

#### **Registration Form**

Name of the Par	rticipant
Designation	
University / Inst	itute
Email ID	
Mobile No.	
Category	Student / Faculty

**Link for Registration** 



## FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28) DEPARTMENT OF ZOOLOGY COURSE CURRICULUM

P/	ART	-A: Introducti	on				
	2007	m: Bachelor in Lit ificate / Diploma /		Semester – II/IV/V/VI	Session: 2024-2025	•	
1 Course Code Z		rrse Code	ZOSEC-01	ZOSEC-01			
2		irse Title	Vermiculture and Vermicomposting			- 1	
3	Cot	irse Type	Skill Enhancem	ent Course			
4	Pre	e-requisite (if, any)		As per Prog	ram		
5	Course Learning Outcomes (CLO)		➤ Learn the identifivermicomposting ➤ Cultivate the skill ➤ Understand the cl ➤ Analyze the feats		for vermiculture and nicomposting.		
6	Cre	editValue	2 Credits (IC+IC)	2 Credits Credit = 15 Hours -Theoretical learning and			
7	Tot	tal Marks	Max.Marks:50	77.55	in Passing Marks:20		
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	1	➤ Practical Record					
					10.20		
				ting, Vermiwash, Grow Bags, N.	STOPHON LIM		

#### PART-C:Learning Resources

#### Text Books, Reference Books and Others

#### Text Books Recommended -

- Chauhan, A. (2012) Vermitechnology, Vermiculture, Vermicompost and Earthworms: Vermiculture, Vermicomposting, Vermitechnology and Mirobes, Lambert Academic Publishing, Germany.
- National Institute of Industrial Research, (2010): The Complete Technology Book on Vermiculture and Vermicompost, Published by National Institute of Industrial Research, Delhi-7, India.
- Kumar, A. (2005) Verms and Vermitechnology, APH Publishing.
- Bhatnagar & Patla, 2007. Earthworm vermiculture and vermin-composting. Kalyani Publishers, New Delhi.
- Sultan Ahmed Ismail, 2005. The Earthworm Book, Second Revised Edition. Other India Press, Goa, India.
- Panda Himadri: The Complete Technology Book on Vermiculture and Vermicompost (Earthworm) with Manufacturing Process, Machinery Equipment Details & Plant Layout; Asia Pacific Business Press Inc.
- > EIRI Board : Hand Book Of Biofertilizers & Vermiculture.

#### Online Resources-

- https://agritech.tnau.ac.in/org\_farm/orgfarm\_composting.html#:~:text=In%20the%20Banga lore%20method%20of,laid%20over%20the%20moistened%20layer.
- https://www.thepharmajournal.com/archives/2021/vol10issue12/PartAR/11-5-248-926.pdf

#### Online Resources-

https://megbrdc.nic.in/publications/fliers-Pamphlets/nadep-composting-english.pdf

फोन : 0771-4053443



## गुरुकुल महिला महाविद्यालय

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ठत्तीसगढ शासन तथा पंडित रविशंकर शुक्त विश्वविद्यालव सवपुर से संबंध गुरुकुल परिसर, कालीबाडी रोड, रावपुर (छ.म.) ई-मेल : into@gurukulraipur.com.Website : www.gmm.ac.in

संचालित भातखण्डे ललितकला शिक्षा समिति, गांधी चौक, रावपुर (छत्तीसगद) पंजीवन कं. 16/51-52

**中川市 1290125** 

रिनांक : <u>04/04/2025</u>

To,

Mr. D.S. Pandey Agriculture Extension Officer, Arang.

Sub :- Consent for lecture in workshop.

Sir,

This is to inform you that Gurukul Mahila Mahavidyalaya, Raipur is going to organise 01 Day Workshop & Training Program on "Vermiculture & Vermicomposting" on 07/04/2025 from 10:45 am. We are looking for your consent for same.

Thanking You,

Dr. Devshree Verma Organizing Sectary Dr. Sandhya Gupta

Principal

Gurukul Mahila Mahavidhyalaya Kalibadi Road, RAIPUR (C.G.)

#### **GURUKUL MAHILA MAHAVIDYALAYA**

KALIBADI ROAD, RAIPUR, C.G.

## 1 DAYS WORKSHOP & TRANNING PROGRAM ON VERMICULTURE & VERMICOMPOSTING

## CLASS - B.SC II SEMESTER STUDENTS / FACULTY YEAR 2025

#### ATTENDANCE SHEET

S.NO.	NAME	SIGNATURE
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6	Dr Shaving Rani Maf	drang
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## GURUKUL MAHILA MAHAVIDYALAYA

KALIBADI ROAD, RAIPUR, C.G.

#### 2 DAYS WORKSHOP & TRANNING PROGRAM ON VERMICULTURE & VERMICOMPOSTING

#### CLASS - B.SC II SEMESTER (REGULAR + PRIVATE) STUDENT **YEAR 2025**

#### ATTENDANCE SHEET

	Cleanage	SIGNATURE			
NO.	NAME	DAY 1	DAY 2		
1	MAHIMA TURKAR	Marina	Mahima		
2	MANJU SAHU	Maru.	Dadu		
3	MANSI THAKUR	-	(de		
4	NAMRATA PATEL	नाभूता पटेल	गर्मा पर्टा		
5	NIKITA PATEL	Ceaul	Charles		
6	NISHA YADAV	Djuden	Mudeen		
7	POOJA MAHAPATRA	Pooja	P0019		
8	PRATHANA MAHOBIYA	91पना	9ापना		
9	PRERNA SAHU	-वेरा १२१६	चेरा। रनाड		
10	PURNIMA	-	Purnina		
11	RAKHI YADAV	Fraces.	Hadas		
12	SAIMA FATIMA	8. falina			
13	SHRIPARNA SHARMA	Herepana.	Loupama		
14	TALBIYA MOHAMMADI	( <del>-</del> )			
15	TANISHKA KURRE	Tanjohor	Tonishs		
16	URWASHI PATEL	Rwashi	Amastro		
17	AAKANKSHA JAGNE	-	Deagnot		
18	внооміка	-	Bhoomika		
19	DAMINI SAHU	Danshi	Doming		
20	DIVYANSHI GAIKWAD	Dingogh	-		
21	MAHEK KHAN		-		
22	MUSKAN SONI	Homi	i <del>s an</del>		
23	NIKITA BISWAS	Hibi ros	Moisues		
24	PALLAVI THAKUR	Pallavi	Palloni		
25	PAYAL PATEL	Paycel	0		
26	PEMENDRA KUMAR GAJPAL	Pemendra	<b>—</b> ,		
27	SHIVANI BHŐSLE	Markey.	Sheete		
28	SUMAN BANDE	Suman Bande	Suman Bando		
29	YAMINI THAKUR	Dent.			

## BSC IInd sem (CS+Maths)

S.NO.	NAME	SIGNATURE
31	Mansi sahu	Mansi
32	Nilima Dowangan	Nilima
33	Pallaui Dewangan	Tattory
34	scial Dewangen	Sijal
35	Mamter Dewangen	Marsh
36	Nikita kowred	M. Bita
37	Ruchita Sahe	Delita
38	Archna sahu	Anos Sie
39	Suman yadav	adurian
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#### A. Aims and Objective of the workshop and study tour

**Skill Enhancement Course (SEC)** is one of the subjects for Second Semester students. It is evident with title of the course that the main purpose of introducing this course is to enhance skill ability of students so that they can develop entrepreneurship capability.

**Topic: Vermiculture & Vermicomposting** 

#### B. Why we Choose this topic for workshop and study tour

Pt. Ravishankar Shukla University has introduced National Education Policy in HEIs from academic session 2024-25. This policy is based on Choice Based Credit System for multidisciplinary education. The main aim of this policy is to inculcate moral values and skill abilities with education.

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This process is called **Vermicomposting** and the rearing of worms for this purpose is called **Vermiculture**. Vermicomposting makes nutrient rich "Worm manure" and it is the end-product of the breakdown of organic matter by earthworms.

Students can learn process of vermiculture and vermicomposting in this workshop and can learn about preparation of "Worm manure" which can be easily sold. So that purpose of workshop to train and to make entrepreneurs can be fulfilled.

#### C. General Information About Vermiculture and Vermicomposting

Vermicompost is known to be the world's best fertilizer. Vermicomposting is a method of preparing enriched compost with the use of earthworms. It is one of the easiest methods to recycle agricultural wastes and to produce quality compost. Earthworms consume biomass and excrete it in digested form called worm casts. Worm casts are popularly called as Black gold. The casts are rich in nutrients, growth

promoting substances, beneficial soil micro flora andhaving properties of inhibiting pathogenic microbes. Vermicompost is stable, fine granular organic manure, which enriches soil quality by improving its physicochemical and biological properties. It is highly useful in raising seedlings and for crop production. Vermicompost is becoming popular as a major component of organic farming system.

#### D. What is the Oppurtunity of Vermiculture and Vermicomposting

#### **Opportunities:**

People are more concerned about their health so they want to consume organic food.

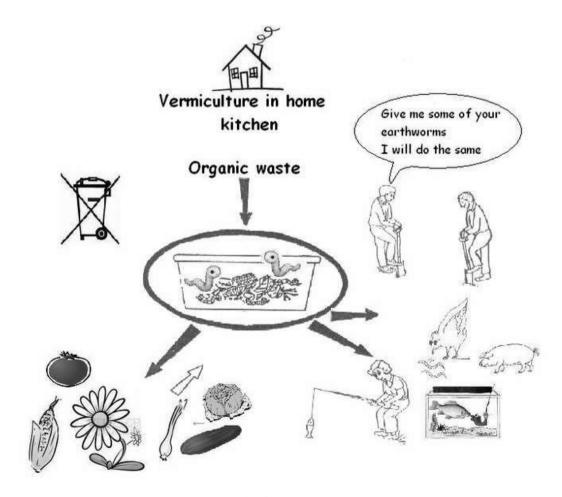
Hundreds of tones biodegradable organic waste is being thrown in cities creating disposal problems in the country. This waste can be converted into valuable compost by utilizing as raw material. Legitimate support by the government to the farmers to start this unit. Absence of competitors in the market can be a big opportunity for producers.

Wide scope at national and international level.



#### A Brief Abstract of the Event

Vermicompost is one of the most important manures of organic farming. In this context, the skill development training has been organized by department of Science The training was started with the auspicious presence of the Principal Dr. Sandhya Gupta and Dr. Vandana Agrawal HOD Department of Science along with 41 participants students and 12 Professors attain workshop. from the Department of science. This 2 days training program (from 07 to 8 April 2025). had been divided into 2 sessions and in each session workshop and second day study tour in Jora Patel nursery and vermiculture and vermicomposting field, participants gained a variety of knowledge related to vermicomposting from the subject experts D.S. Pandy Agriculture extension officer arang. During this training program, the participant learned the various approaches to vermicomposting. The students gained knowledge about the Vermicompost preparation method, application method, management of vermicompost, varmiwash preparation, application of varmiwash, and management of vermiwash tank. At the end of this training program two vermicompost production units, have been constructed by the participant. A valedictory program has been organized to provide the certificate to the participant. The trainees were glad to participate in this training programe and they said in the feedback session, that they learned a lot of things about vermicompost and they will adopt it in the future.







#### Vermiculture

#### Introduction

Vermiculture is a technique based on utilizing some species of earthworms to convert organic waste into Vermicompost which is again, the product of decomposition by various worms. It is a practice of harvesting worms that take part in decomposing organic waste and turning it into nutrient-rich fertilizer. The worms consume the decomposing organic material and flush it out of their system, which is referred to as worm manure.

Earthworms that are commonly used in Vermiculture are, Eisenia Andrei, Eisenia fetida, and Lumbricus rubellus horticultural in temperate climates and Pheretima Perionyx Hawanya Excavatus and Eudrilus Eugeniae and in the tropical areas.

In short, Vermiculture and Vermicomposting are the cultivation of earthworms and the use of earthworms to decompose organic wastes into nutrient-rich fertilizers.

#### **Vermiculture Meaning**

In general terms, Vermiculture means the cultivation of earthworms in order to use them to convert organic waste to nutrient and beneficial microorganism rice fertilizer. It allows us to grow organically rich compost year-round. Vermiculture was first introduced in the 1970s by a biology teacher, Mary Appelhif. She developed the idea of using red wiggler worms (Eisenia fetida) for composting in indoor and outdoor systems to convert kitchen waste to worm compost.

#### **Vermiculture Techniques**

There are three major techniques in Vermiculture for harvesting worms. These are

- 1. Manual
- 2. Migration
- 3. Mechanical

#### **Manual Method of Harvesting**

This method is generally used by framers for small-scale businesses of selling worms. The worms are harvested from the soil directly by using hands. The organic material which contains earthworms is kept on a flat surface and exposed to sunlight. It should be noted that earthworms are sensitive to light, so once they are exposed to sunlight they dive below the surface. The harvester will then remove the organic layer above and once the worms are seen they are harvested.

#### **Migration Method of Harvesting**

This method takes advantage of the earthworm's tendency to migrate to a new location for food and for this reason, onion bags and screens are used for harvesting. At the bottom surface of the screen, a box will be constructed where the worms would be collected. The migration method is carried out in two ways. The downward migration method is where the worms are forced to move

downwards in the organic material with the use of light. They will go through the

screen mesh and be collected in the container box below which is filled with peat moss. The process is repeated until the required quantity of worms has been achieved. It is a time-saving process and can be seen in multiple locations.

In the upward migration method, the mesh bottom of the box would be replaced by a worm bed. The box will be filled with peat moss and food which attracts the worms. Generally, coffee grounds and manure from fresh cattle are used as food for worms and they will move towards it and be collected in the box.

#### **Mechanical Method of Harvesting**

In this method, a mechanical harvester is used to collect worms. It is a trammel screen which is called a rotary screen that is used to separate materials. It is around lift long and 4ft in diameter and has a cylindrical shape. The walls of the cylinder are made of screening materials with different sized meshes. The cylinder is powered by an electric motor. The device would be set at an angle at the top side of the trammel. After that, the castings and the worm beds are added. When the rotation starts the castings of the worms will drop through the screen and the worms will move across the trammel device and enter into the wheelbarrow.

#### **Vermiculture Process**

The method used by farmers to multiply earthworms is by mixing high amounts of organic wastes, including the plant materials, cattle dung in a proportion of 1:1. Once the substrate medium has been made, around 40–50 earthworm species are released into the medium and it is protected from various environmental factors. Regular maintenance is important for the growth of earthworms. The temperature should be between 15 to 25-degree centigrade and the moisture level should be at 80–90%.

Within one to two months, the earthworms can multiply up to 300 times relying on this process and factors affecting the process, and then they can be harvested.

#### **Materials Required for Vermicomposting:**

- Crop residues
- Vegetable waste
- Cattle dung
- Dried leaves
- Waste from agro-industries
- A suitable container
- Shed
- Pits
- Water supply
- Earthworms

#### **Preparation of Vermicomposting**

- A container with suitable dimensions is chosen and a worm bed I made at the pit of the container. This worm bed consists of old papers, sugar cane trash, paddy husk, and coir waste. A thin layer of soil is spread over this mixture and the humidity is maintained at 40-45%
- A mix of organic waste, slurry from a biogas plant and cattle dung is spread over the bed and it is kept for half digestion for a period of two weeks. During this time, the temperature of the bedding will rise to 50-55 degrees centigrade. A 5-10% neem cake is added to eliminate harmful microorganisms.
- After the temperature is cooled down to 30 degrees, the earthworms are introduced. Around 500 earthworms are introduced for 100 kgs of organic material.
- The bed is covered with straw and jute clothes to protect the worm. The temperature is maintained at 20-30 degrees centigrade and the moisture content is kept at 45-50%. (pH: 6.5-7)
- The compost will be ready in around 60 days and after it is ready the worms are separated by spreading the Vermicompost on a plastic sheet in a heap under sunlight. As earthworms are sensitive to sunlight, they will move to the bottom of the heap and the top layer of the compost can be removed.

#### **Vermiculture Facts:**

- Vermicompost is eco-friendly and it can help in reducing landfill
- The worm liquid at the bottom of the worm bin is great for the growth of garden plants. It is also known as worm tea.
- Worm casting can improve soil fertility by enriching it with nutrients.
- Worms have no eyes, no ears, and 5 hearts.
- They breathe through their skin.

#### Significance of Vermiculture

Vermiculture is the culture of earthworms. It is a beneficial way of improving the fertility of the plant and soil. Vermiculture mainly focuses on the breeding of worms so as to increase their population. Vermicompost is then prepared to promote the growth and development of crops. It also causes disease in plants along with increasing water retention and the porosity of the soil. This greatly reduces the need for chemical fertilizers and encourages organic matter.

#### **PHOTOGRAPH**















## **STUDY TOUR**













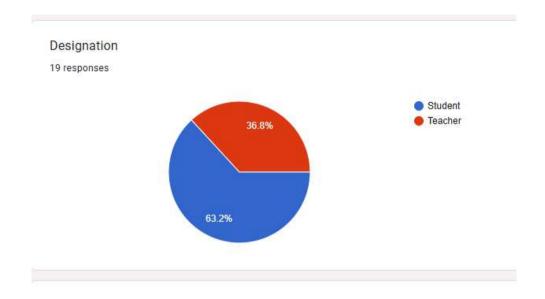


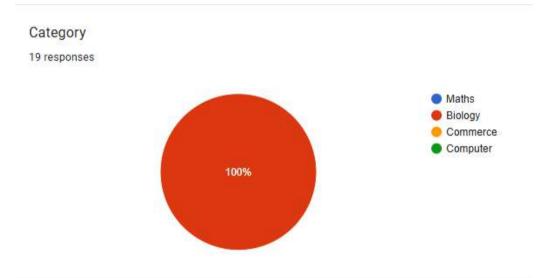


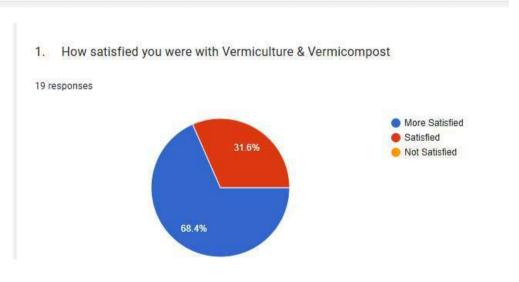




## **FEEDBACK**

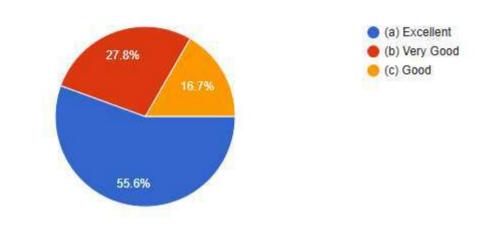






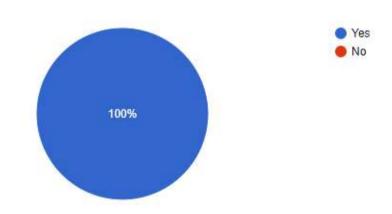
#### 2. Rate the Vermiculture & Vermicompost

18 responses



#### 3. Do you want such Seminar to continue happening again?

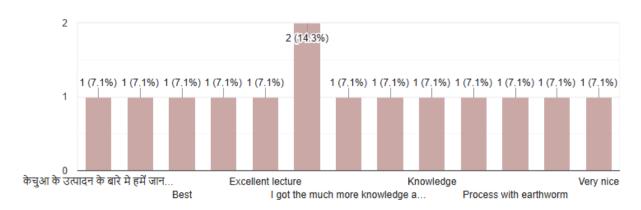
17 responses



Copy chart

#### 4. Vermiculture Knowledge

14 responses



#### **MEDIA**

Link: <a href="https://www.positiveindia.net.in/gurukul-mahila-mahavidyalaya-conducts-skill-enhancement-workshop/">https://www.positiveindia.net.in/gurukul-mahila-mahavidyalaya-conducts-skill-enhancement-workshop/</a>



#### गुरुकुल महिला महाविद्यालय ने स्किल एन्हांसमेंट कार्यशाला का <mark>किया</mark> आयोजन





#### Positive India:Raipur:

गुरुकुल महिला महाविद्यालय कालीबाड़ी रोड, रायपुर के विज्ञान विभाग द्वारा एक दिवसीय कार्यशाला का आयोजन किया गया। कार्यशाला में स्किल एन्हांसमेंट कोर्स के अंतर्गत वर्मीकल्चर एवं वर्मीकम्पोस्ट पर प्रशिक्षण कार्यक्रम आयोजित की गई।

कार्यशाला में डी. एस. पांडे (कृषि विस्तार अधिकारी, आरंग) उपस्थित हुए। इस कार्यशाला के छात्राओं को कार्बनिक खाद बनाने की विधि व अनुप्रयोग को समझाया गया। छात्राओं ने प्रशिक्षण के दौरान प्रशिक्षक से कार्यशाला से संबंधित कई प्रश्न पुळे गये जिनका समाधान किया गया।

डी एस पांडे द्वारा कार्बनिक खाद को उद्यमिता से जोड़कर छात्राओं का मार्गदर्शन किया गया। कार्यशाला में महाविद्यालय के प्राचार्य ,प्राध्यापकों, छात्राओं , एवं अन्य महाविद्यालय से आये प्राध्यापकों की उपस्थिति में कार्य संपन्न हुआ। कार्यशाला के कार्यक्रम प्रभारी डा. देवश्री वर्मा एवं प्रीति साहू रहे एवं कार्यक्रम का संचालन डा. सीमा चंद्राकर द्वारा किया गया।



#### Link: https://grandnews.in/2025/04/08/raipur-news-educational-tour-of-students/



छत्तीसगढ मध्य प्रदेश मनोरंजन खेल धर्म वायरल वीडियो विदेश :

## RAIPUR NEWS : गुरुकुल महिला महाविद्यालय की छात्राओं का शैक्षिक भ्रमण, सिखाया गया कार्बनिक खाद बनाने की विधि



रायपुर। RAIPUR NEWS: गुरुकुल महिला महाविद्यालय कालीबाड़ी रोड, रायपुर के विज्ञान विभाग द्वारा स्टूडेंट्स को जोरा स्थित नर्सरी में शैक्षिक भ्रमण के लिए लें जाया गया। शैक्षिक भ्रमण स्किल एन्हांसमेंट कोर्स के अंतर्गत आता हैं वर्मीकल्चर एवं वर्मीकम्पोस्ट के प्रशिक्षण के लिए इसका आयोजन किया गया। इस शैक्षिक भ्रमण में छात्राओं को कार्बिनक खाद बनाने की विधि को पटेल सर ने बहुत ही सरल तरीके से बताया एवं समझाया। छात्राओं ने शैक्षिक भ्रमण के दौरान पटेल सर से वर्मिकंपोस्टिंग और वर्मिकल्चर से संबंधित कई प्रश्न पूछे गये जिनका समाधान किया गया। पटेल सर ने के द्वारा छात्राओं का मार्गदर्शन किया। शैक्षिक भ्रमण में महाविद्यालय के अवंतिका सोनी, डॉ अनुराधा गुप्ता और प्रिया दुबे शामिल थी और डॉ. देवश्री वर्मा एवं प्रीति साहू कार्यक्रम के प्रभारी प्राध्यापक थे, छात्राओं ने बहुत अच्छे से वर्मिकंपोस्टिंग को सिखा।

- Advertisement -





#### **NEWS BULLETIN**

https://www.youtube.com/watch?v=z2gstUMP904







## विज्ञान विभाग द्वारा एक दिवसीय कार्यशाला का आयोजन किया गया

दबंग स्वर

रायपर। गुरुकल महिला महाविद्यालय कालीबाडी रोड. रायपुर के विज्ञान विभाग द्वारा एक दिवसीय कार्यशाला का किया आयोजन कार्यशाला रिकल एन्हांसमेंट कोर्स के अंतर्गत वर्मीकल्चर एवं वर्मीकम्पोस्ट प्रशिक्षण आयोजित की गई। कार्यशाला में डी. एस. पांडे जी (कृषि विस्तार अधिकारी, आरंग) उपस्थित हुए। इस कार्यशाला छात्राओं को कार्बनिक खाद बनाने की विधि व अनुप्रयोग को समझाया गया। छात्राओं ने प्रशिक्षण के दौरान प्रशिक्षक से कार्यशाला से संबंधित कई प्रश्न पछे गये जिनका समाधान किया गया। डी एस पांडे जी के द्वारा कार्बनिक खाद को उद्यमिता से





मार्गदर्शन किये कार्यशाला में महाविद्यालय के प्राचार्य ,प्राध्यापकों, छात्राओं , एवं अन्य महाविद्यालय से आये प्राध्यापकों की उपस्थिति में कार्य संपन्न हुआ। कार्यशाला के कार्यक्रम प्रभारी डा?. देवश्री वर्मा एवं प्रीति साह रहे एवं कार्यक्रम का संचालन डा. सीमा चंदाकर द्वारा किया गया।

#### **PRIMF DAY**

## Vermicompost Workshop at Gurukul College

The Science Department of Gurukul Women's College, Kalibadi Road, Raipur, successfully organized a one-day workshop. This workshop was conducted under the Sk II Enhancement Course, with the primary aim of providing students with technical knowledge of vermiculture (earthworm cultivation) and vermicompost (organic compost made using

The workshop was of Mr. D. S. Pandey, Agriculture Extension Officer, Arang, as the special guest. He provided detailed insights to the students on the process of making organic compost, its benefits, and its applications in agricul-



ture. He emphasized that vermicompost is ecofriendly, improves soil quality, and is a costeffective alternative that graced by the presence supports sustainable farming practices. During the training session, the students showed keen interest in the subject and asked several relevant questions. Mr. Pandey addressed all queres with simple and scientific explanations,

thereby enhancing the students' understanding He further highlighted the entrepreneurial potential of vermiculture, stating that it is not only beneficial in agriculture but also opens up ample selfemployment opportunities. He encouraged the stucents to adopt this technique and take significant steps toward selfreliance by becoming success'ul entrepre

neurs. The workshop began with a welcome soneth by the Principal of the college, who emphasized the importance of practical education and skill cevelopment. She stated that in today's time, theoretical knowledge alone is not sufficient; students must also acquire hands-on experience and emorace innovation to face future challenges. The program mempers from the Department. Science tractions from other faculties, a larce number of students, and invited onefirstors from other colloges. All attendess found the training to be useful and inspiring. The students actively participated and observed the complete process of organic compost preparation firsthand.

The mordinators of the workshop were Dr. Devehroe Verma and Prees Sahu, who played a significant role in ensuring the success of the event. The program was conducted efficiently Dr. Seema Chardrakar from the Science Department, who skillfully managed the proceedings through-

At the conclusion of the workshop, a vote of thanks was delivered. wherein the organizers expressed their gratitude to the special quest, colece administration, parsic pating faculty mempers, and students. The college principal stated that similar knowledgeannancing and employment-oriented training programs would continue in he organized in the luture, enabling students to gain practical knowledge and shape a better

This workshop not only served as an educasonal experience for the students but also inspired them to connect with nature and contribute towards environmental conservation.

#### **DANIK BHASKER**

# घर पर गोबर और सिंजयों को कम्पोस्ट करें इससे 50 दिन में तैयार हो जाएगी नेचुरल खाद

सिटी रिपोर्टर, रायपुर

कालीबाडी रोड स्थित गुरुकुल महिला महाविद्यालय में स्किल इतहांसमेंट कोर्स के तहत वर्मीकल्चर और वर्मी-कम्पोस्ट वर्कशॉप का आयोजन किया गया। इस दौरान कृषि विस्तार अधिकारी डीएस पांडे ने स्टडेंटस को घर पर ही आसानी से वर्मी-कम्पोस्ट बनाने की टेनिंग दी। उन्होंने बताया कि नई शिक्षा नीति के तहत यह प्रशिक्षण दिया जा रहा है, लेकिन जुलॉजी कोर सब्जेक्ट होने के कारण अगर खाट



बनाने की विधि सीखी जाए तो अच्छी अर्निंग भी की जा सकती है। सुखे गोबर और घर से निकलने बाला फल और सब्जी के छिलके से खाद तैयार का तापमान अधिकतम 40 डिग्री से और डॉ. सीमा चंद्राकर शामिल हुए।

ज्यादा नहीं होनी चाहिए। इस दौरान खाद में नमी रहना जरूरी है, ताकि वर्मी यानी केंचुआ जीवित रहे और अच्छी खाद बन सके। ध्यान रखें कि खाद बनने के दौरान वहां चींटियां या कोई कीड़े ना आए। जरूरत होने पर सुखी घास, पत्तियां, नारियल का बरादा भी डाला जा सकता है। 50-60 दिन में खाद बनकर तैयार हो जाता है। 5 किलो वर्मी-कम्पोस्ट खाट किया जाता है। जिस स्थान पर भी 300-500 रुपए के बीच बिकता है। खाद बनाकर रखा जा रहा हो, वहां इस दौरान डॉ. देवश्री वर्मा, प्रीति साह



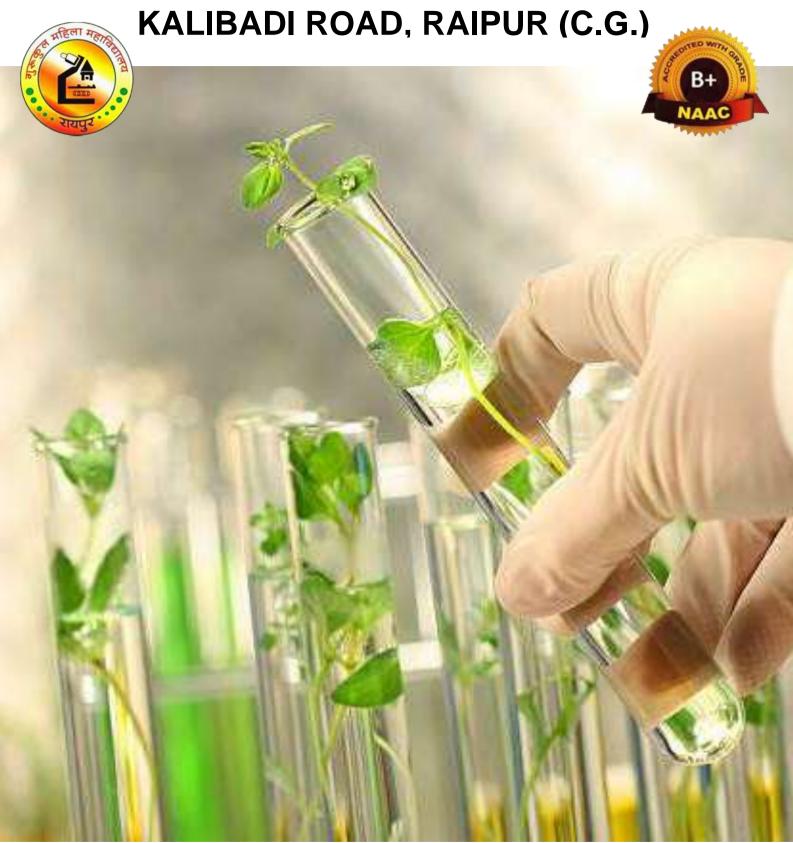
## **GROUP PHOTO**





# **Thank You**

## **GURUKUL MAHILA MAHAVIDYALAYA**



**DEPARTMENT OF SCIENCE** 

## **HANDS ON TRAINING**

(March to April 2025)



**SKILL ENHANCEMENT COURSE** 

IN
GREEN
CHEMISTRY



## **INDEX**

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## **HANDS ON TRAINING**

#### IN

#### **GREEN CHEMISTRY**

## SKILL ENHANCEMENT COURSE

(MARCH 25 TO APRIL 25)

#### **OBJECTIVE:**

- 1. To safe environment by substituting harmful chemicals.
- 2. Minimize the potential for accident.
- 3. Design of chemical products and processes that reduce or eliminate the use or generation of hazardous substances.
- 4. Reducing waste product or disposing of waste in the correct manner.



#### **VENUE:**

#### **CHEMISTRY LABORATORY**

(Gurukul Mahila Mahavidyalaya, Kalibadi Chowk, Raipur))

#### **NEED OF GREEN CHEMISTRY:**

Green chemistry the self-explanatory term is a branch of chemistry that involves the application of chemical product and processes in such a way that reduces the generation of hazardous chemical waste and its release into the environment. Here we try to train students for making chemical free daily products.





#### **ATTENDANCE SHEET**

No. of Participant: 17

# HANDS ON TRAINING IN GREEN CHEMISTRY

Date	
	Attendance Sheet

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Anutha	Aruna	Anuna	Anuma	Anyma
Hazka	HUZFA	Norta	Hazfu	· Hazfer

a7/04/2025	08/04/2025	09/04/202	11/04/2025	12/04/2025
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Negh	Diegha	Menka	Weghn	Mesho
Payal	Payas	Payer	Payat	Payde
America	Aruma	Anuna	Anuman	Anyma
Hazka	HUZFA	Norta	Hazfu	- Hazfe

#### **SOME EXPERIMENTS:**

- 1. Basic shampoo
- 2. Body wash
- 3. Dry skin moisturizer
- 4. Face Scrub
- 5. Food colour
- 6. Hand Sanitizer
- 7. Hand Wash
- 8. Herbal shampoo
- 9. Multani mitti soap
- 10. Neem Aloe soap
- 11. Oil based perfume
- 12. Oily skin Moisturizer
- 13. Recycle paper
- 14. Sensitive skin moisturizer
- 15. Spray based perfume
- 16. Sunscreen
- 17. Liptint

## **IMAGES**































#### **VIDEOS**

## **Basic Shampoo**

## Material Required-1/4 cup liquid castile soap

¼ cup aloevera gel 1 tspcoconut milk10 drop essential oil (lavender, rosemary, tea tree oil etc.)1 tsp jojoba or almond oil

## **Method of Preparation:-**

**Step 1-** take castile soap and aloe vera gel in a beaker.

Step 2- Add coconut milk into it.

Step 3- Add Almond oil.

Step 4 - Add essential oil (tea Tree oil)

**Step 5-** Mix it well and store in airtight container





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## **Body Wash**

**Material Required**- 200g Coconut oil / shea butter (base oil), lye Sodium hydroxide (Naoh) 2.8 gm, Distilled water 90 ml, for fragrance- Tea tree, Vanilla, lavender Essential oil, Additive - Neem Extract, aloe vera Extract, Glycerin

#### **Material Required -**

**Step 1** Take Coconut oil, Shea butter in a beaker, heat until it melt properly

Step 2 - Take Naoh and add it to distilled water

**Step 3-** Now add Naoh solution in Base oil

**Step 4 -** For different type of body wash take neem aloe vera and glycerin (additives) in different beaker

**Step 5** - Now add the Base oil Naoh solution in Additative

**Step 6** - Store in a Airtight container & in cool dry place





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## **Dry Skin Moisturizer**

**Material Required -** 2 tsp Shea butter, 1 tsp jojoba oil, 1 tsp Almond oil, 5-8 drops lavender essential oil

## **Method of Preparation -**

**Step 1-** Add Shea butter in a container

Step 2 - 1 tsp Jojoba oil

Step 3 - 1 tsp Almond oil

Step 4 - Add essential oil and mix it well





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## **Face Scrub**

**Material Required-** 1 tsp raw honey , 1 tsp Coffee powder , 1 tsp Brown sugar / regular sugar , Vitamin E 1 tsp oil, 1-5 drops Tea tree Essential oil

## **Method of Preparation**

**Step 1-** Add raw honey to beaker

Step 2- Add vitamin e oil

**Step 3 -** Add tea tree essential oil

**Step 4 -** Add Brown sugar or regular sugar and coffee powder

**Step 5 -** Mix it well & store in Airtight container





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## **Face Wash**

**Material Required -** 2 tsp raw honey , 1 tsp coconut oil / Coconut oil , 1 tsp aloe vera gel , 2 tsp Castile Soap , 5 drops lavender essential oil

## **Method of Preparation:-**

Step 1- Add 2 tsp raw honey to a beaker

Step 2- Add 1 tsp coconut oil

Step 3- Add 1 tsp Aloe vera gel and Castile Soap

Step 4- Add essential oil and mix it well

**Step 5-** Store in airtight Container





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## **Food colour**

Material Required- Beetroot - Red colour

Carrot - Orange colour Spinach- Green colour

## **Method of preparation:-**

**Step1-** Grate Vegetable or Fruit or Blend Make a smooth paste.

**Step 2 -** filter the juice.

**Step 3 -** Start Boiling until the consistency become Thicker.

**Step 4** Pour the food colour in airtight container in cool dry place to prevent contamination.





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## **Hand Sanitizer**

**Material Required -** % Cup Ethanol, % cup Aloe vera gel, tea Tree Essential oil, distilled water

## **Method of Preparation -**

Step 1- Take ethanol and distilled water in a beaker

**Step 2 -** Mix ethanol and water together

Step 3- Add Aloe Vera gel and mix it well

Step 4- Now add Essential oil to it

**Step 5** - Store in a container.





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## **Hand Wash**

**Material Required -** ½ Cup Castile soap, ¾ Cup water, 2 tsp Aloe vera gel, 10 drops Essential oil, 1 tsp glycerin

### **Method of Preparation**

**Step 1-** With help measuring cylinder add castile soap and water in a container

Step 2- Add 2 tsp Aloe vera gel to it

**Step 3-** Add 1 tsp glycerin and Essential oil { lavender }

**Step 4 -** Mix it well by shaking and Store it in a container.





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# **Herbal Shampoo**

**Material Required -** 2 tsp Shikakai , 2 tsp Reetha , 1 tsp Amla , 2 cup water , 10 drops Essential oil ( peppermint / tea tree )

## **Method of Preparation:-**

Step 1- Take shikakai, Reetha Amla powder in a beaker

Step 2 - Mix it well

Step 3 - Add water in it

Step 4 - Mix it well

Step 5 - Add essential oil & mix well

Step 6 - Boil for 10-15 min

**Step 7 -** Stain the solution

**Step 8** Store in airtight container





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# Multani Mitti Soap

**Material Required -** Multani mitti as a base 1 Cup, Shikakai powder 1 tsp, Reetha powder 1 tsp, Castile soap 2-3 tsp, Turmeric powder, peppermint Essential oil, Coconut oil.

### **Method of Preparation:-**

**Step 1-** Add Multani mitti in a beaker.

Step 2- Add Shikakai, reetha, turmeric powder in that beaker

**Step 3-** Add Castile Soap and Coconut oil to that mixture **Step 4 -** Mix it well and make soap like structure with hand or use a silicon soap mould for perfect shape.





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# **Neem Aloe Soap**

**Material Required-** Organic Soap base ( Such as Shea butter, Coconut oil or olive oil soap base ), Aloe vera gel ( fresh or organic ) Neem juice or Neem oil (organic ), Essential oil (Tea Tree oil )

## **Method of Preparation:-**

**Step 1 -** Take out Neem extract in a beaker and add aloe vera gel to it

**Step 2-** Now heat the Soap base until it melt properly **Step 3 -** Then add the Neem aloe extract to Melted soap base.

**Step 4-** Add Essential oil to it.

**Step 5 -** Pour the mixture to Soap Mould and wait until it sets then Unmould the soap.





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# **Oil Based Perfume**

**Material Required - Carrier oil -** Coconut oil , jojoba oil 2 tsp , Essential oil - Vanilla Essential oil , lavender essential oil 20-30 drops

## **Method of Preparation -**

**Step 1 -** Add Carrier oil in a Container

Step 2 - Add Essential oil to it

**Step 3 -** Shake it well Reset the solution for 24- 48 hours for better fragrance





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# Oily Skin Moisturizer

**Material Required-** 2 tsp Aloe Vera gel , 1 tsp Coconut oil , 3-5 Drops Tea tree essential oil

## **Method of Preparation -**

**Step 1-** Add Aloe vera gel to Container

Step 2 - Add Coconut oil then

Step 3- Add Tea tree essential oil

**Step 4-** Mix it well and store in cool dry place





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## RECYCLE PAPER

Material Required :- Old paper, water, blender, paper mold

**Method of preparation:-**

**Step:1 tear and soak paper** - Tear old paper into small pieces and soak them into water for several hours.

**Step:2 blender into pulp**- Blend the Soaked paper and water into in smooth pulp.

**Step:3 from the sheet**- pour onto a frame with a screen and spread it evenly to form a sheet.

**Step:4 press and dry**- Press out excess water with a sponge then transfer the sheet to a flat surface and let it dry completely.





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# **Spray Based Perfume**

**Material Required -** Ethanol / vodka 2 tsp , lemon juice 10- 15 drops , peppermint essential oil 10- 30 drops , distilled water

### **Method of Preparation -**

- **Step 1-** Add Ethanol and lemon juice in a beaker
- **Step 2-** Then Add Essential oil to the beaker
- **Step 3-** Shake well Store it spray bottle and keep it **rest** for 24 hours
- **Step 4-** Now add Distilled water and shake it well
- **Step 5-** store in cool dry place





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# **Sensitive Skin Moisturizer**

**Material Required -** 1 tsp Yogurt ,1 tsp Raw honey , 1 tsp Almond oil , 5-7 Drops of vanilla essential oil.

### **Method of Preparation-**

Step1 - Add 1 tsp Yogurt in a container

Step 2- Add 1 tsp Raw honey

Step 3 - Add 1 tsp Almond oil & mix it well

Step 4 - Add 5-7 Drop of vanilla essential oil

**Step 5** - Store in cool Dry place





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## **SUNSCREEN**

**Material Required -** 1/2 cup Shea butter , 1/4 cup coconut, 4 tbsp carrot seed oil , 4 tbsp non- nano zinc , 10 drop lavender essential oil / vanilla essential oil

#### **Method of Preparation-**

Step:1 take Shea butter and coconut oil &Mix it well

Step:2 4 tsp add carrot seed oil & Mix it well

Step:3 4 tsp add zinc oxide & Mix it well

**Step:4** Pour Sunscreen to Airtight container.

Step:5 Add 10 Drops of vanilla / Lavender Essential oil & mix it well.





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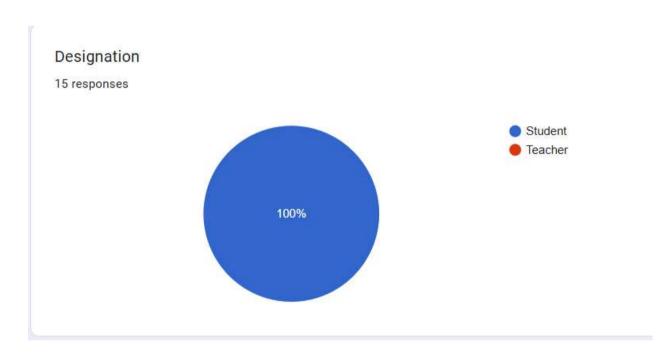
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#### **BENEFITS/APPLICATIONS:**

- 1. Less release of hazardous chemicals to atmosphere leading to less damage to environement.
- 2. Green chemistry is Pharmaceutical Industry.
- 3. Green chemistry is energy science.
- 4. Eco-friendly Dry Cleaning of clothes.
- 5. Clearing turbid water.
- 6. Nanoscience applications.
- 7. GreenChemistry in Research Laboratories.

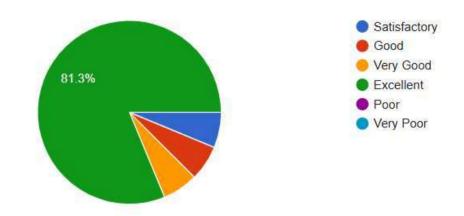
#### **FEEDBACK**





#### The Event /Program is

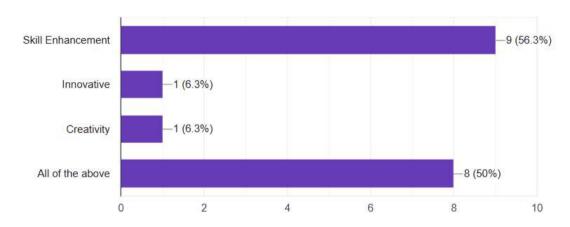
#### 16 responses



### What did you learn from this programme

Copy ch

16 responses



Has this training inspired you to start a business of your own in this field of Green Chemistry.

16 responses



#### What improvements you suggests for the events

8 responses

Focus on early planning, audience engagement, and utilizing technology.

Learning and inspiration

We keep It and doing well And our green chemistry Is the veri nice and good Subject

None, Everything was on point.

Please increase time and your program is beneficial for us

Green chemistry skill and enhancement" learning and inspiration

It Well and Keep and doing it

There should be a feedback session of the participants.

#### **FUTURE ASPECTS:**

- 1. Design processes for readily reusing recycling materials to keep chemical components active in the economy for as long as possible.
- 2. Green nanotechnology reduces waste generation and applies effective recycling methods for nanoproducts.
- 3. Recycled carbon nanotubes have low metal content and are used for energy storage.
- 4. Renewable feedstocks like fossil fuels for chemical production.

