



“Dissemination of Education through Knowledge, Science and Culture”  
-Shikshanmaharshi Dr. Bapuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha's Kolhapur

**PADMABHUSHAN DR. VASANTRAODADA PATIL**  
**MAHAVIDYALAYA TASGAON DIST- SANGLI**  
**416 312 (Maharashtra) Phone No: (02346)250665**  
(Affiliated to Shivaji University, Kolhapur)

**DEPARTMENT OF PHYSICS**

**CERTIFICATE COURSE**

**“MAINTENANCE AND REPAIRS OF ELECTRICAL  
DOMESTIC APPLIANCES”**

**2020-2021**

**BOARD OF STUDY**

**Year 2020-2021**

The members of the board of study

Dr. J. S. Ghodake


Mr. B.S. Harale

Mr. S. S. Shinde

Mr. G. S. Pawar

Mr. D. S. Shinde

Course co-coordinator

  
Principal

**Principal**

**Padmabhushan Dr. Vasentraodada Patil**  
**Mahavidyalaya, Tasgaon, (Sangli)**

"Dissemination of Education for Knowledge, Science and Culture"

-Shikshanmaharshi Dr. Bapuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha Kolhapur's

Padmabhushan Dr. Vasantodada Patil Mahavidyalaya, Tasgaon

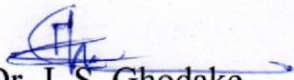
Department of Physics

BOARD OF STUDY

2020-2021

Board of study member in Certificate course in maintenance and repairs of electrical domestic appliances

1)	Dr. J. S. Ghodake	PDVP College, Tasgaon
2)	Mr. B.S. Harale	PDVP College, Tasgaon
3)	Mr. S. S. Shinde	PDVP College, Tasgaon
4)	Mr. G. S. Pawar	PDVP College, Tasgaon
5)	Mr. D. S. Shinde	PDVP College, Tasgaon

  
Dr. J. S. Ghodake

**Head,**

**Department of Physics,  
Padmabhushan Dr. Vasantodada Patil  
Mahavidyalaya, Tasgaon, (Dist. Sangli)**

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Padmabhushan Dr. Vasantrodada Patil Mahavidyalaya, Tasgaon

Department of Physics

Date-20/11/2020

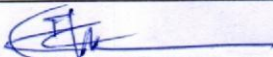
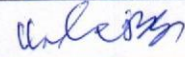



MEETING NOTICE


All members of the BOS in Certificate course in maintenance and repairs of electrical domestic appliances are hereby informed that a meeting is convened on 27/11/2020 at 2.30 p. m. in the physics departmental. All the respected members are requested to attend the meeting to discuss the following agenda.

Agenda:

1. Preparation of syllabus of certificate course
2. Time table and Workload
3. Syllabus distribution
4. Any other issue raised with prior permission of Chairperson.

Following members are present on this meeting.

Sr. No.	Name of the faculty	Signature
1)	Dr. J. S. Ghodake	
2)	Mr. B.S. Harale	
3)	Mr. S. S. Shinde	
4)	Mr. G. S. Pawar	
5)	Mr. D. S. Shinde	

  
Dr. J. S. Ghodake  
Head,

Department of Physics,  
Padmabhushan Dr. Vasantrodada Patil  
Mahavidyalaya, Tasgaon, (Dist. Sangli)

Department of Physics,  
Padmabhushan Dr. Vasatraodada Patil  
Mahavidyalaya, Tasgaon  
Dist-Sangli  
01/04/2021

To,  
The Principal,  
Padmabhushan Dr. Vasatraodada Patil Mahavidyalaya,  
Tasgaon, Dist-Sangli

Subject -: Permission for conducting Certificate course - Maintenance and Repairs  
of Electrical Domestic Appliances

Respected Sir,


The department of physics conducting Certificate course of Certificate  
course in Maintenance and Repairs of Electrical Domestic Appliances from  
07/04/2021.

I kindly request you to give permission for run the above said certificate  
course.

Thanking you.

*Permsa (mtr)*  
*(14/4/21)*

Yours Faithfully,



Dr. Ghodake J. S.  
Head,

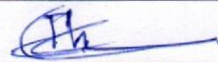
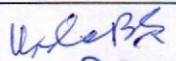



Department of Physics,  
Padmabhushan Dr. Vasatraodada Patil  
Mahavidyalaya, Tasgaon, (Dist. Sangli)

## Minutes of Meeting

The minutes of the meeting are given below

1. During the meeting syllabus of certificate course in maintenance and repairs of electrical domestic appliances are prepared. It contains two papers in which first theory and second practicals are discussed. The responsibility of preparation of syllabus is given to Mr. Mr. B. S. Harale
2. The responsibility of completion of syllabus is given to teacher Mr. Y. S. Pandit.

Following members are present on this meeting.

Sr. No.	Name of the faculty	Signature
1)	Dr. J. S. Ghodake	
2)	Mr. B.S. Harale	
3)	Mr. S. S. Shinde	
4)	Mr. G. S. Pawar	
5)	Mr. D. S. Shinde	

  
Dr. J. S. Ghodake  
**Head,**

**Department of Physics,**  
Padmabhushan Dr. Vasantaoada Patil  
Mahavidyalaya, Tasgaon, (Dist. Sangli)

## **Aims and Objectives**

The aim of this certificate course is to demonstrate the potential problems that can arise due to poor wiring, grounding or shielding. From this course students acquire knowledge about different types of electrical wires (gauges) and accessories as well as earthing or grounding.

Also create awareness about electrical earthing. The students who completed this course are competent in electrical work and get job opportunities in a commercial electrical manufacturing work or maintainer.

1. Testing of electrical parameters, cables and measurements.
2. Select the proper instrument for suitable measurement.
3. Practice soldering and de-soldering of various types of electrical wires.
4. Trouble shoot the faults in the given power supply circuits.
5. Testing of various mechanical and electrical modules of the given appliances.
6. Testing of electrical parts/wires /boards.
7. Aware of earthing of different appliances.
8. To study the various types of earthing for electrical system.
9. Testing and identification of faulty wires, electrical boards

### **Undergraduate students upon graduation with a bachelor degree in sciences:**

learning outcomes (knowledge, skills and competence):

1. Students acquire knowledge about function and use of electrical boards, accessories. Also create awareness about electrical earthing. The students who completed this course are competent in electrical work as well as electrical manufacturing work or maintainer.
2. Maintain the voltage as well as current at any part of an electrical equipment or system at a known value.
3. Home appliances or equipments prevented from over current or excessive voltage
4. Duration of course: One month.
5. Eligibility to course: B.Sc. I
6. Admission: Entire B.Sc. I Physics Students.
7. Total fees: Rs.00/-

**Evaluation System:**

All the students will be continuously evaluated by,

**Theory paper**

Final examination 50 M

Nature of Theory question paper

Q-1 Attempt any two (To be divided into sub questions i to iii) 30M

Q-2 Attempt any four. (To be divided into sub questions i to v) 20M

**Practical Course**

Nature of Practical question paper 50 M


a. Diagram 15 M


b. Instrumentation 10 M


c. Testing 15 M

d. Oral 10 M

Certification: A certificate will be issued on successful completion of the course.

  
Mr. B. S. Harale  
Co- coordinator

  
Dr. J. S. Ghodake  
**Head,**  
**Department of Physics,**  
**Padmabhushan Dr. Vasantrodada Patil**  
**Mahavidyalaya, Tasgaon, (Dist. Sangli)**

  
Dr. Milind S. Hujare  
**Principal**  
**Padmabhushan Dr. Vasantrodada Patil**  
**Mahavidyalaya, Tasgaon, (Sangli)**



## Syllabus

### Theory Paper I [Total periods: 15]

#### Unit I

Electrical Testing and Maintenance Poor wiring and defective electric wires, Extension cords, Covered electrical cords and wires, House wiring and their types, Electrical boards, Light bulbs, Tubes.

#### Unit II

Earthing System, Earthing Theory, Basics of earthing system or grounding system, System or Neutral earthing, Equipment earthing, Types of earthing system or grounding system- TT earthing system, IT earthing system, TN-S earthing system, Different methods for earthing - Plate earthing, Pipe earthing, Strip or wire earthing, Advantages of earthing.


### Practical Paper II


[Total periods: 15]

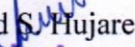
1. Test electrical boards and house wiring
2. Study the various types of earthing for electrical systems

#### Reference book

1. Basic Electricity- Prof O. B. Chaudhari, Nirali publication
2. Electrical Machines- Prof O. B. Chaudhari, Nirali publication
3. Electricity and Basic electronics- Dr. P. K. Patil, Phadake publication
4. Electricity and Magnetism- Dr. P. K. Patil, Phadake publication

  
Mr. B. S. Harale  
Co- coordinator

  
Dr. J. S. Ghodake  
Head,

  
Dr. Milind S. Hujare  
Principal

Department of Physics, Padmabhushan Dr. Vasantrodada Patil  
Mahavidyalaya, Tasgaon, (Dist. Sangli)  
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Padmabhushan Dr. Vasantodada Patil Mahavidyalaya Tasgaon Dist-Sangli  
Department of Physics  
Certificate Course in

## “MAINTENANCE AND REPAIRS OF DOMESTIC APPLIANCES”

2020-2021

List of the students

Sr. No	Roll No.	Gender	Name of the Student
1	5001	MISS	BABAR SARIKA GANPATI
2	5002	MISS	BHOSALE DNYANESHWARI PARAMANAND
3	5003	MISS	BHOSALE PALLAVI DILIP
4	5004	SHRI	CHAVAN PRATHMESH POPAT
5	5005	SHRI	CHAVAN YASHWANT SANJAY
6	5006	MISS	CHOUGULE NIKITA NAMDEV
7	5007	MISS	DAGADE TEJASHRI ADHIKARAO
8	5008	MISS	DEVKULE NIKITA NISHIKANT
9	5009	MISS	EDAKE POOJA TUKARAM
10	5010	MISS	GADVIR MANALI DIPAK
11	5011	SHRI	GAIKWAD NIKHIL SHANKAR
12	5012	MISS	GHORAPADE SAKSHI BALASO
13	5013	SHRI	GOSAVI DEEPAK MANIK
14	5014	MISS	GURAV JYOTI UTTAM
15	5015	SHRI	JADHAV RATNADIP SANJAY
16	5016	MISS	JADHAV SNEHAL SADANAND
17	5017	MISS	JADHAV SUSHAMA SAHEBRAV

18	<b>5018</b>	SHRI	<b>KAMBLE HARSH DILIP</b>
19	<b>5019</b>	MISS	<b>KHARMATE JYOTI DIPAK</b>
20	<b>5020</b>	SHRI	<b>KOLI PRATHAMESH SANJAY</b>
21	<b>5021</b>	SHRI	<b>LANDAGE ABHIJEET ANNASO</b>
22	<b>5022</b>	MISS	<b>LOKHANDE TRUPTI RAJENDRA</b>
23	<b>5023</b>	MISS	<b>MAINKAR DHANASHREE DATTATRAY</b>
24	<b>5024</b>	MISS	<b>MALI ASHWINI SHIVAJI</b>
25	<b>5025</b>	MISS	<b>MANE NIKITA SHARAD</b>
26	<b>5026</b>	SHRI	<b>MANE SANGRAM BHIMRAO</b>
27	<b>5027</b>	SHRI	<b>MANE SHUBHAM NETAJI</b>
28	<b>5028</b>	MISS	<b>MORE ARPITA VISHWAS</b>
29	<b>5144</b>	SHRI	<b>SHINDE RITESH SHRIKANT</b>
30	<b>5145</b>	SHRI	<b>SHINDE ROHIT RAMESH</b>
31	<b>5146</b>	MISS	<b>SHINDE SAKSHEE SUSHILKUMAR</b>
32	<b>5147</b>	SHRI	<b>SORATE PRATHMESH VIJAY</b>
33	<b>5148</b>	MISS	<b>WAGHMARE SWATI RAVINDRA</b>
34	<b>5149</b>	SHRI	<b>ZAMBRE SHUBHAM LAXMAN</b>
35	<b>5095</b>	SHRI	<b>SALUNKHE SUYASH DINESH</b>
36	<b>5096</b>	SHRI	<b>SASANE RITESH BALASO</b>
37	<b>5097</b>	MISS	<b>SHAIKH NILOFAR SHAHAJAAN</b>
38	<b>5098</b>	MISS	<b>SHELKE SUVARNA SHANKAR</b>
39	<b>5099</b>	MISS	<b>SHINDE PRAJAKTA PRALHAD</b>
40	<b>5100</b>	MISS	<b>SHINDE SAMRUDDHI RAJARAM</b>

Mr. B.S.Harale  
Co- coordinator

Dr. J. S. Ghodake  
**Head,**  
**Department of Physics,**  
**Padmabhushan Dr. Vasantrodada Patil**  
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Department of Physics

Certificate Course in

**"MAINTENANCE AND REPAIRS OF ELECTRICAL DOMESTIC APPLIANCES"**

2020-2021

**Work Load**

Theory	Practical	Total
15	15	30


**Distribution of Work Load**

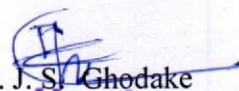
**Theory Paper I**

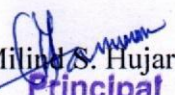
Sr.No	Name of the teacher	Work Load in hours
1	Mr. Y. S. Pandit.	15

**Practical Paper II**

Sr. No	Name of the teacher	Work Load in hours
1	Mr. Y. S. Pandit.	15

  
Mr. B. S. Harale  
Co- coordinator

  
Dr. J. S. Ghodake  
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**Department of Physics**

Certificate Course in

**"MAINTENANCE AND REPAIRS OF ELECTRICAL DOMESTIC  
APPLIANCES"**

**2020-2021**

**Attendance**

Date: 20/8/2021

Time: 10:30 AM

Sr. No.	Roll No.	Name of the student	Signature
---------	----------	---------------------	-----------

Name of the Teacher: Shri Y. S. Pandit

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**Department of Physics**

Certificate Course in

**"MAINTENANCE AND REPAIRS OF ELECTRICAL DOMESTIC  
APPLIANCES"**


**2020-2021**

**Mark sheet**

Roll No.	Student Name	Score
5001	Sarika Ganpati Babar	22 / 30
5001	Sarika Ganpati Babar	22 / 30
5003	Bhosale Pallavi Dilip	26 / 30
5003	Bhosale Pallavi Dilip	28 / 30
5003	Bhosale Pallavi Dilip	26 / 30
5003	Bhosale Pallavi Dilip	26 / 30
5003	Bhosale Pallavi Dilip	28 / 30
5003	Bhosale Pallavi Dilip	28 / 30
5004	Prathmesh Popat Chavan	26 / 30
5006	Nikita namdev chougule	18 / 30
5007	Dagade Tejashri Adhikarao	24 / 30

5008	Devkule nikita nishikant	10 / 30
5009	Edake Pooja Tukaram	22 / 30
5009	Edake Pooja Tukaram	28 / 30
5010	Gadvir Manali Dipak	28 / 30
5012	Sakshi Balaso Ghorapade	28 / 30
5013	Deepak Manik Gosavi.	28 / 30
5013	Deepak Manik Gosavi.	14 / 30
5014	Jyoti Uttam Gurav	22 / 30
5014	Gurav Jyoti Uttam	28 / 30
5016	Snehal sadanand Jadhav	26 / 30
5017	Sushama sahebarav Jadhav	12 / 30
5017	Sushama sahebarav Jadhav	2 / 30
5018	Harsh Dilip Kamble	28 / 30
5022	Lokhande Trupti Rajendra	28 / 30
5022	Lokhande Trupti Rajendra	24 / 30
5023	Dhanshree Dattatray Mainkar	24 / 30
5024	Ashwini Shivaji Mali	26 / 30
5024	Ashwini Shivaji Mali	16 / 30
5025	Nikita sharad mane	24 / 30
5025	Nikita Sharad Mane	28 / 30
5025	Nikita Sharad Mane	28 / 30
5026	Sangram bhimara mane	6 / 30
5026	Mane Sangram Bhimrao	28 / 30
5026	Mane Sangram Bhimrao	24 / 30
5027	Mane Shubham Neatji	28 / 30
5098	Suvarna Shankar Shelke	24 / 30
5100	Shinde Samruddhi Rajaram	12 / 30
5146	Sakshee sushilkumar shinde	8 / 30
5208	Shubham Namdev Mane	28 / 30

Name of the Examiner: Shri Y. S. Pandit

  
 Dr. J. S. Ghodake  
 Department of Physics,  
 Padmabhushan Dr. Vasantgadada Patil  
 Mahavidyalaya, Tasgaon, (Dist. Sangli)

# LECTURE ATTENDANCE

12:36 77% 77%

Close Participants (11)

Search

- GP GAJANAN PAWAR
- B B Harale
- J Dr.J.S. Ghodake
- AJ Aditi Jadhav
- AS Asavari Patil
- AS Ashish Shinde
- KS Komal Suryawanshi
- PK Pranjata Gaikwad
- PC Pratima Chougule
- RT Rutuja Jemdade
- SS Snehal Sawashe

2:30 59%

Close Participants (13)

Search

- GP GAJANAN PAWAR
- B B Harale
- AM Arpita More
- AS Ashwini & Snehal
- DB Deepak Gosavi
- DM Dhanshree Mainkar
- J Dr.J.S. Ghodake
- JG Jyoti Gurav
- MB Manali gudvir
- PD Pallavi Dilip Bhosale
- PK Pratimash chavan
- SK Sangram mane 5301
- TL Trupti Lokhande

Invite Mute All

3:21 64%

Close Participants (36)

Search

- B B Harale
- J Dr.J.S. Ghodake
- AD Aditi Vitkar
- AJ Aishwarya Jayappa
- AK Aishwarya Kadam
- HJ Harshada Jadhav
- HR Harshada Jadhav
- HP Hrutuja Patil
- IN Isha Nikita
- JG Jyoti Ghosale
- KA Kajal mane
- MA Manasvi Patil
- MA Mava Warhmare

11:55 85%

Close Participants (32)

Search

- B B Harale
- AS Akshada Shendage
- AD Anjali Desai
- D Dhanshree
- DS Divya salunkhe
- KP Kajal pawar
- K Kartiki
- KP Komal Patil
- KK Kundan Kondake
- M Maahi Shikalgar
- MM Mayuri Mohite
- NP Nikhil patil

Invite Mute All

11:24 89%

Close Participants (24)

Search

- B B Harale
- AS Akshada Shendage
- AD Anjali Desai
- D Dhanshree
- DS Divya salunkhe
- KP Kajal pawar
- K Kartiki
- KP Komal Patil
- M Maahi Shikalgar
- NP Nikhil patil
- NP Nivedita Patil
- PT Parth Thorat

11:58 84%

Close Participants (31)

Search

- B B Harale
- AS Akshada Shendage
- AD Anjali Desai
- D Dhanshree
- DS Divya salunkhe
- KP Kajal pawar
- K Kartiki
- KP Komal Patil
- M Maahi Shikalgar
- MM Mayuri Mohite
- NP Nikhil patil
- NP Nishagandha Patil

Invite Mute All

# Question Paper

## DEPARTMENT OF PHYSICS

gajaneswar121@gmail.com (not shared) Switch account



\* Required

Select the correct alternatives

Each carrying 2 marks

Ironing is usually a heated tool to remove ..... from fabric \*

2 points

- wrinkles
- dust
- soap
- particles

The temperature of ironing is commonly kept between ..... degree centigrade. \*

2 points

- 50-100
- 100-150
- 180-220
- 200-250

The electric iron was invented in ..... by Henry Seeley.

2 points

- 1857
- 1800
- 1850
- 1882

The temperature for ironing nylon 66 cloths..... is degree centigrade \*

2 points

- 150
- 170
- 190
- 200

Most fans powered by .....

2 points

- Machine
- electric motor
- hydraulic motor
- hand cranks

Fan produce air flows with high .....

2 points

- volume
- pressure
- temperature
- both volume and pressure

The instrument used for measuring electric current is \*

2 points

- ammeter
- galvanometer
- voltmeter
- potentiometer

Which of the following motors always starts on load? \*

2 points

- conveyor motor
- flour mill motor
- fan motor
- all of these

Fans are not used to cool .....

2 points

- people
- air
- volume
- pressure

The rotating assembly of blade and hub is known as .....

2 points

- an impeller
- motor
- turbine
- vane

A fan is powered machine used to create a flow of .....

2 points

- liquid
- fluid
- air
- both a & b

Electric motor is the device which converts electric energy into .....energy. \*

2 points

- light
- heat
- chemical
- mechanical

Stainless steel is very difficult to grind due to its .....

2 points

- toughness
- ability to work harden
- both a & b
- none of these

Grinding is the process of removing material by a .....

2 points

- rubbing
- cutting
- polishing
- wearing



The contact resistance of a manually operated switch is .....

2 points

- zero
- very high
- very low
- none of these




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PADMABHUSHAN Dr. VASANTRAODADA PATIL  
MAHAVIDYALAYA, TASGAON DIST SANGLI**

**SANSTHAMATA SUSHILADEVI SALUNKHE  
ENTREPRENEURSHIP AND SKILL DEVELOPMNT CENTER**

## CERTIFICATE

This is to certify that Mr./Ms. BABAR SARIKA GANPATI  
Class B.Sc. I has successfully completed the certificate course  
in MAINTENANCE AND REPAIRS OF DOMESTIC APPLIANCES  
conducted by the department of PHYSECS during  
the academic year 2020-21.

  
Head

**Head,  
Department of Physics,  
Padmabhushan Dr. Vasanttraodada Patil  
Mahavidyalaya, Tasgaon, (Dist. Sangli)**

  
Coordinator

  
Principal

**Padmabhushan Dr. Vasanttraodada Patil  
Mahavidyalaya, Tasgaon, (Sangli)**