

Mahatma Gandhi College  
Department Of Physics  
Add on course - 2018 -19  
Repair and maintenance of lab equipments



Vibration Magnetometer



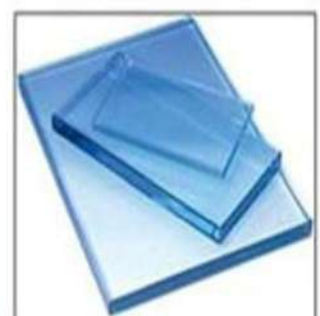
P.O.Box



Spherometer



Bar Magnet U-Magnet



Glass slab



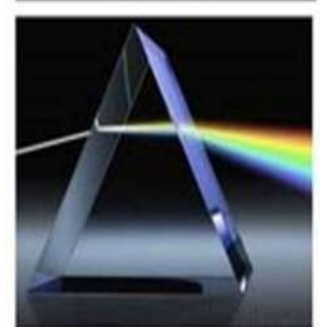
Hand Lens Metallic



Screw Gauge



Stop Clock



Prism

**Mahatma Gandhi College**  
**Department Of Physics**  
**Add -On course 2018-2019**

**REPAIR AND MAINTENANCE OF BASIC LAB EQUIPMENTS**

The broad **objectives** of this programme:

- familiarize the learners with the basic facilities available in college level  
Physics laboratories;
- impart knowledge of the basics of organization and management of  
laboratories;
- train the learners in the operation and maintenance of simple instruments  
used in laboratories; enable them to develop skills in common laboratory  
techniques;
- train them in the procedures of procurement and storage of laboratory  
equipment and materials; enable them to adopt appropriate disposal  
procedures and safety methods suitable for laboratories

## Syllabus

(30 Hours)

### Know your physics laboratory

Laboratory arrangements, Dark room arrangements; General utilities in the physics laboratory Electric and Water supplies; , Broad classification of the apparatus in a physics laboratory Basic/General apparatus , Optical apparatus and Electrical and Electronic apparatus. e.g stopwatch, telescope optical lever, concave & convex lenses and mirrors, spectrometer, prism, slotted weight, weight Box.

Length and Time Measurements - Vernier callipers, Screw gauge spherometer Stop watch, Stop clock and Digital timer; Permanent magnets

Electrical Components and Circuits: Ammeters , voltmeter, galvanometer, Potential difference, Resistance, Power; Components of Electrical Circuits —Resistors (with colour code), Rheostat, Resistance Coil, Resistance Box, One Way and Two-Way Keys, Tap Key, Capacitors, Inductors; Transformers; Primary and Secondary Cells; Handling and maintenance of multimeter, Potentiometer.

Use of Computers in Laboratory: Component of a Computer — Central processing unit, memory, input and output devices, Application software — MS Word, MS Excel, Internet

Enrollment List Of students 2018 - 19

Sl.N O:	Candidate Code	Name of the Candidate
1	23017118001	ADHARSH NAIR A.S.
2	23017118002	AKSHAY L. S
3	23017118003	ANJANA M.P.
4	23017118004	ANJU S. NAIR
5	23017118005	ARATHI B CHANDRAN
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85	23018118030	AMBADI THULASI
86	23018118031	ANAND C
87	23018118032	ANJANA ANIL

88	23018118033	ANOOP S
89	23018118034	ANU CHANDRAN M
90	23018118035	ARJUN A S
91	23018118036	ARJUN MANOJ
92	23018118037	ASWIN R L
93	23018118038	ATHIRA S
94	23018118039	ATHULYA R
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98	23018118043	G A GOKUL
99	23018118044	HARISANKAR V S
100	23018118045	JISHMA M S







84	23018118029	AKHILA A A	1	1	1	a	1	1	1	1
85	23018118030	AMBADI THULASI	1	1	1	1	1	1	1	1
86	23018118031	ANAND C	1	a	1	1	1	1	1	1
87	23018118032	ANJANA ANIL	1	1	1	1	1	1	1	1
88	23018118033	ANOOP S	1	1	1	1	1	1	1	a
89	23018118034	ANU CHANDRAN M	1	1	1	a	1	1	1	1
90	23018118035	ARJUN A S	1	1	1	1	1	1	1	1
91	23018118036	ARJUN MANOJ	1	a	1	1	1	1	1	1
92	23018118037	ASWIN R L	1	1	1	1	1	1	1	1
93	23018118038	ATHIRA S	1	1	1	1	a	1	1	1
94	23018118039	ATHULYA R	1	1	a	1	1	1	1	1
95	23018118040	BHAVYA S NAIR	1	1	1	1	1	1	1	a a
96	23018118041	DEVIKA P KUMAR	1	1	1	1	1	1	1	1
97	23018118042	DEVIKA B	1	1	1	1	a	1	1	1
98	23018118043	G A GOKUL	a	1	1	1	1	1	1	1
99	23018118044	HARISANKAR V S	1	1	1	1	1	1	1	1
100	23018118045	JISHMA M S	1	a	1	1	1	1	1	1

**HEAD**

DEPARTMENT OF PHYSICS  
 MAHATMA GANDHI COLLEGE  
 THIRUVAILANTHAPURAM

# Test Paper

Time: 1 hour

Marks: 20

**1. Accuracy is defined as:**

- A measure of how often an experimental value can be repeated.
- The closeness of a measured value to the real value.
- The number of significant figures used in a measurement.
- None of these

**2. Which instrument is used to measuring electrical currents in amperes?**

- Altimeter
- Ammeter
- Voltmeter
- None of this

**3. Which instrument is used to continuous recording of atmospheric pressure?**

- Calorimeter
- Barometer
- Hygrometer
- None of this

**4. Which instrument is used to measuring quantities of heat?**

- Barometer
- Hygrometer
- Thermometer
- Calorimeter

**5. Which instrument is used to measure potential difference between two points?**

- Ammeter
- Voltmeter
- Stethoscope
- Anemometer

**6. Which instrument is used to measure depth of ocean?**

- Fathometer
- Hygrometer
- Odometer
- None of this

**7. Which instrument is used for measuring The specific gravity of liquids?**

- Barometer
- Hydrometer
- Hygrometer
- None of this

8. Which instrument used for recording sound under water?

- Hydrophone
- Hydrometer
- Hygrometer
- None of this

9. Which instrument used for measuring the purity of milk?

- Altimeter
- Hydrometer
- Manometer
- Lactometer

10. Which instrument for recording electrical mechanical vibrations?

- Stethoscope
- Oscillograph
- Odometer
- None of this

## Marks

SI.NO:	Candidate Code	Name of the Candidate	20
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33	23017118033	ANANTHU A. S.	20
34	23017118034	ANJANA R.	18
35	23017118035	ANJANA S.K	16
36	23017118036	ANOOP M.S.	20
37	23017118037	AROMA NAIR	16
38	23017118038	ARYA T.R.	15

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 An  
 Anju  
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 Arathi  
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 Gopi  
 Haripriya  
 Keshav  
 Manu  
 Nidhi  
 Pranav  
 Reshma  
 Revathi  
 Sabarinath  
 Sajeev  
 Saranya  
 Shajin  
 Sibin  
 Sidharth  
 Smrithy  
 Sreejith  
 Vinayak  
 Vrinda  
 Abhishek  
 Adithya  
 Akshaya  
 Amal  
 Amritha  
 Anandhu  
 Ananthu  
 Anjana  
 Anjana  
 Anoop  
 Aroma  
 Arya

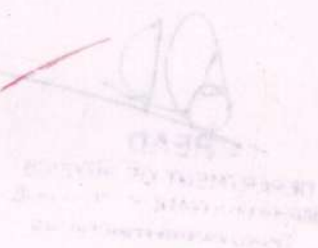
39	23017118039	ASWATHY S. S.	15	Aswathy
40	23017118040	CHANDANA P. R.	15	Chandana
41	23017118041	GOKUL S. KUMAR	19	Gokul S
42	23017118042	GOKUL SANKAR G.	20	Gokul S
43	23017118043	GOPIKA VIJAYAN	18	Go pika V
44	23017118044	KRISHNEND A.	19	Krishnend
45	23017118045	MEENAKSHI M. A.	18	Meenakshi
46	23017118046	NEETHU A.R.	18	Neethu
47	23017118047	SALCHIN K	17	Salchin
48	23017118048	SARATH S	18	Sarath
49	23017118049	SREEJITH S P	20	Sreejith
50	23017118050	SUHANA S.	19	Suhana
51	23017118051	SURYA G. S.	19	Surya G S
52	23017118052	ABHI KRISHNA S. J.	19	Abhi Krishna
53	23017118053	SARIKA M S	18	Sarika
54	23017118054	SOURAV S. NAIR	18	Sourav
55	23017118055	ARCHANA P.	17	Archana
56	23018118001	ABHIJEET S	20	Abhijeet
57	23018118002	AKHILA B	19	Akhila
58	23018118003	AMAL KRISHNA P S	19	Amal P
59	23018118004	ANANTHU A	18	Ananthu
60	23018118005	ARJUN A	20	Arjun
61	23018118006	ASWIN K BABU	19	Aswin
62	23018118007	ASWINI KURUP	19	Aswini
63	23018118008	DEVIKA V S	18	Devika
64	23018118009	GAUTAM R	20	Gautam
65	23018118010	GOPIKA G NAIR	17	Go pika
66	23018118011	GOURI B R	14	Gouri
67	23018118012	KARTHIK H	18	Karthik
68	23018118013	KARTHIK R S	16	Karthik
69	23018118014	KEERTHANA M	15	Keerthana
70	23018118015	MUNNA NIRANJAN R V	20	Munna
71	23018118016	NANDU J S	18	Nandu
72	23018118017	ROY S JOHN	19	Roy S John
73	23018118018	SANJAY SANTHOSH	18	Sanjay
74	23018118019	SARANG S S	20	Sarang
75	23018118020	SUSHIL G	19	Sushil
76	23018118021	VAISHNA VIJAYAN	20	Vaishna
77	23018118022	VISHNU CHANDRAN C K	20	Vishnu
78	23018118023	VISHNU SURESH	18	Vishnu
79	23018118024	VIVEK G KISHORE	20	Vivek
80	23018118025	ABHIJITH V S	18	Abhijith
81	23018118026	ADITHYA A S	19	Adithya
82	23018118027	ADITHYA ANIL	18	Adithya
83	23018118028	AKHIL R D	18	Akhil

23017118039 ASWATHY S. S. 15  
 23017118040 CHANDANA P. R. 15  
 23017118041 GOKUL S. KUMAR 19  
 23017118042 GOKUL SANKAR G. 20  
 23017118043 GOPIKA VIJAYAN 18  
 23017118044 KRISHNEND A. 19  
 23017118045 MEENAKSHI M. A. 18  
 23017118046 NEETHU A.R. 18  
 23017118047 SALCHIN K 17  
 23017118048 SARATH S 18  
 23017118049 SREEJITH S P 20  
 23017118050 SUHANA S. 19  
 23017118051 SURYA G. S. 19  
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 23017118055 ARCHANA P. 17  
 23018118001 ABHIJEET S 20  
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 23018118004 ANANTHU A 18  
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 23018118008 DEVIKA V S 18  
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 23018118014 KEERTHANA M 15  
 23018118015 MUNNA NIRANJAN R V 20  
 23018118016 NANDU J S 18  
 23018118017 ROY S JOHN 19  
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84	23018118029	AKHILA A A	19	Akhila
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94	23018118039	ATHULYA R	17	Athulya
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**HEAD**  
DEPARTMENT OF PHYSICS  
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THIRUVANANTHAPURAM



**DEPARTMENT OF PHYSICS**  
**MAHATMA GANDHI COLLEGE, THIRUVANANTHAPURAM**


**CERTIFICATE**

It is certified that Mr./Ms. Anya T. R. has participated in the Add-on course **Repair and Maintenance of Basic lab equipment** conducted by this department during 2018-2019.

  
Coordinator

  
Head of the Department

  
Principal

  
**HEAD**  
**DEPARTMENT OF PHYSICS**  
**MAHATMA GANDHI COLLEGE**  
**THIRUVANANTHAPURAM**


**Feedback on the course "Repair and Maintenance Of  
Basic Laboratory Equipment"**

Sl. NO:	Candidate Code	Name of the Candidate	Excellent	very good	good	Satisfacto	Poor
1	23017118001	ADHARSH NAIR A.S.		✓			
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4	23017118004	ANJU S. NAIR			✓		
5	23017118005	ARATHI B CHANDRAN		✓			
6	23017118006	ARATHI R.S.	✓				
7	23017118007	ATHUL RAJ	✓				
8	23017118008	GAUTHAM.P.NAIR	✓				
9	23017118009	GOPIKA S. S.	✓				
10	23017118010	HARIPRIYA M.J.		✓	✓		
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28	23017118028	ADITHYA S. NAIR				✓	
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32	23017118032	ANANDHU U. M.			✓		
33	23017118033	ANANTHU A. S.	✓				
34	23017118034	ANJANA R.		✓			
35	23017118035	ANJANA S.K			✓		
36	23017118036	ANOOP M.S.			✓		



37	23017118037	AROMA NAIR	✓	✓		
38	23017118038	ARYA T.R.			✓	
39	23017118039	ASWATHY S. S.			✓	
40	23017118040	CHANDANA P. R.			✓	
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42	23017118042	GOKUL SANKAR G.		✓		
43	23017118043	GOPIKA VIJAYAN		✓		
44	23017118044	KRISHNEND A.		✓		
45	23017118045	MEENAKSHI M. A.			✓	
46	23017118046	NEETHU A.R.	✓			
47	23017118047	SALCHIM KARAKAT	✓			
48	23017118048	SARATH S			✓	
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53	23017118053	SARIKA M.S.			✓	
54	23017118054	SOURAV S. NAIR		✓	✓	
55	23017118055	ARCHANA P.		✓		
56	23018118001	ABHIJEET S		✓	✓	
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72	23018118017	ROY S JOHN		✓		
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74	23018118019	SARANG S S		✓		
75	23018118020	SUSHIL G		✓		
76	23018118021	VAISHNA VIJAYAN		✓		
77	23018118022	VISHNU CHANDRAN C K			✓	
78	23018118023	VISHNU SURESH			✓	
79	23018118024	VIVEK G KISHORE			✓	
80	23018118025	ABHIJITH V S			✓	
81	23018118026	ADITHYA A S			✓	

82	23018118027	ADITHYA ANIL			✓	
83	23018118028	AKHIL R D			✓	✓
84	23018118029	AKHILA A A		✓		
85	23018118030	AMBADI THULASI			✓	
86	23018118031	ANAND C			✓	
87	23018118032	ANJANA ANIL			✓	
88	23018118033	ANOOP S			✓	
89	23018118034	ANU CHANDRAN M			✓	
90	23018118035	ARJUN A S			✓	
91	23018118036	ARJUN MANOJ	✓			
92	23018118037	ASWIN R L	✓			
93	23018118038	ATHIRA S		✓	✓	
94	23018118039	ATHULYA R			✓	
95	23018118040	BHAVYA S NAIR			✓	
96	23018118041	DEVIKA P KUMAR			✓	
97	23018118042	DEVIKA B			✓	
98	23018118043	G A GOKUL			✓	
99	23018118044	HARISANKAR V S			✓	
100	23018118045	JISHMA M S		✓		

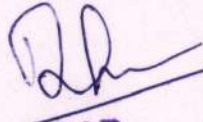
  
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 MAHARAJA KRISHNA RAU COLLEGE OF  
 ENGINEERING AND TECHNOLOGY  
 THIRUVARUR



## Report of the course

The course was conducted successfully for 30 hours with a strength of 100 students. Students were able to understand the importance of laboratory maintenance for ensuring the safety of laboratory workers, the accuracy and reliability of experimental results, the longevity of equipment and facilities, and the productivity of the experiment that is carried out in the laboratory. Students understood that the equipment that receives routine, quality maintenance will last longer. Without routine maintenance, equipment malfunctions would occur more frequently and require a lot more repairs. Awareness of importance of equipment maintenance in optimal working order and proper regular maintenance applied to a piece of equipment was carried out.



  
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